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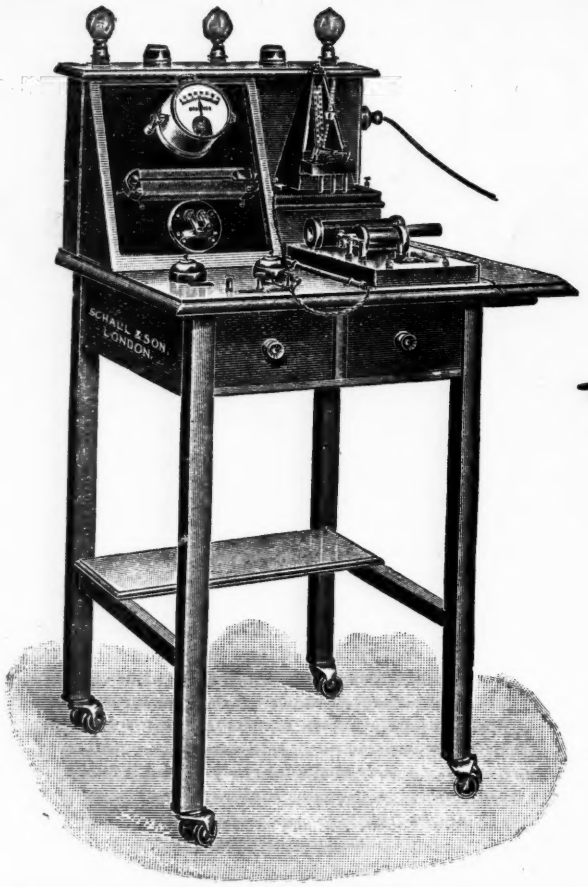

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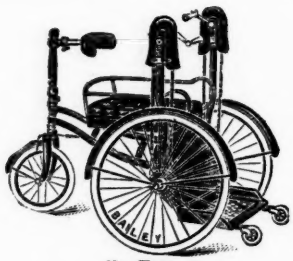

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An Address
ON
THE TREATMENT OF SOME COMMON FEMALE AILMENTS.*

BY
FREDERICK J. McCANN, M.D.EDIN., F.R.C.S.ENG.,
SURGEON TO THE SAMARITAN FREE HOSPITAL FOR WOMEN, LONDON, N.W.

It must be with feelings akin to despair that the practitioner turns for guidance to the modern textbooks on the diseases of women. The pendulum has swung so far in the opposite direction that one arises from the perusal of the recent textbooks thinking that surgical treatment is the one and only remedy for suffering women. Yet it is by the judicious combination of medical and surgical treatment that the practitioner becomes a safe guide to his patient in her struggle against disease. All common ailments are important because they are common, and for this reason, if for no other, require special consideration. My purpose, then, is to direct attention to those remedial agents which I have found useful in the treatment of what may be termed "common female ailments."

Menstrual Disorders.

Amongst common female ailments menstrual disorders are frequently encountered. The recent work on the ductless glands has shed a new light on the phenomena involved in the process of menstruation and has been helpful, too, in pointing the way to more rational methods of treatment. When, therefore, a woman seeks advice for disordered menstruation it is necessary to observe her closely, in order to determine whether she exhibits any signs or symptoms suggesting disturbance of function on the part of one or more of the ductless glands. Has she, for example, deficient or excessive thyroid secretion? or has she deficient or excessive ovarian secretion? or is the pituitary gland at fault?

Amenorrhoea.

It is now possible to treat successfully many examples of amenorrhoea and scanty menstruation which were formerly the flotsam and jetsam of gynaecological practice, cast hither and thither by the tide of therapeutic fashion.

Amenorrhoea, in the absence of genital defects, was generally treated with preparations of iron and arsenic, on the assumption that the cause was "poorness of blood." Observation and experience teach that many of those who suffer from amenorrhoea and scanty menstruation are not anaemic, and that the cause must be sought in other directions. Here glandular therapy comes to our aid, and the employment of thyroid and ovarian extracts marks a distinct advance in treatment.

The obese female with scanty and irregular menstruation accompanied by headaches, depression, and pelvic pain can be successfully treated by thyroid extract. To obtain success the thyroid extract must be administered in small doses for a lengthy period. Not more than 1 grain should be given daily, and this dose is best administered at bedtime. Indeed, it would appear that smaller doses are more efficient, and I now frequently prescribe ½ or ¼ grain doses. The dose should be taken without intermission unless there is evidence of intolerance, when a still smaller dose of $\frac{1}{16}$ grain may be given, or the remedy discontinued for two or three weeks. Ovarian extract gr. v administered thrice daily may be added.

When the amenorrhoea is associated with anaemia or chlorosis the addition of thyroid to the usual treatment with iron and arsenic is productive of quicker and better results.

Dysmenorrhoea.

Those who complain of pain in varying degrees before or during menstruation form a large group of female sufferers. The first step towards correct treatment is to determine where the pain is located. In the commonest type of menstrual pain—the so-called spasmodic dysmenorrhoea—the pain is located in the uterus and is due to painful contractions of that organ. When the pain is so severe as to produce vomiting, dilatation of the cervical canal should be recommended, and if done as it should be, without injury to the hymen, it can be repeated should one dilatation not produce the desired effect. For those who suffer in a lesser degree a variety of pain-killing remedies are advised. Let me add, however, that the treatment prescribed during the intervals between the periods is of prime importance. Everything should be done to increase the strength and power of resistance and under no circumstances should the woman be encouraged to become an invalid. Fresh air and a moderate amount of exercise short of fatigue should be advised, whilst the gastro-intestinal tract should receive attention. Climate and environment have a marked influence on menstrual disorders, and this serves to emphasize the importance of general treatment.

To relieve menstrual pain a saline purgative before the expected period is both a simple and efficacious remedy, whilst the mustard foot-bath is sanctioned by antiquity. Ammonol gr. v–x, followed if required by gr. v every hour for two doses, is one of the best analgesics. Where there is excessive blood loss at the monthly periods, and even apart from this, thyroid and ovarian extracts are useful adjuncts.

A uterus struggling with spasmodic pain or profusely shedding tears of blood in its sexual agony is frequently relieved by marriage, but this brings me into the domain of eugenics and is beyond the scope of this paper.

Menorrhagia.

Brief reference must be made to some examples of excessive loss of blood during menstruation, more particularly to those where at the time of puberty the onset of menstruation is heralded by profuse blood loss. For such the administration of calcium lactate, gr. x–xv one hour before food, will be found beneficial. Others, again in the absence of detectable pathological lesions, are assumed to be due to excessive ovarian secretion, and these are improved by the administration of thyroid extract.

Climacteric Disorders.

To enumerate the remedies which have been used in the treatment of climacteric disorders would occupy a large part of the time at my disposal. I will only refer to two remedies which I have found to be of real value—to wit, thyroid extract and ichthyol. There is probably no remedy which has such power in controlling the vasomotor effects which follow the cessation of menstruation as thyroid extract. After menstruation has ceased a rearrangement of the action and interaction of the ductless glands takes place in the human female. In some individuals the disturbance is slight and transitory, in others profound and long-continued, but while it lasts it is distressing, and causes both physical and mental discomfort. Ovarian extract and corpus luteum extract have been tried with varying degrees of success, either alone or in combination with thyroid, but as yet I have failed to convince myself that they are of real value, and I am disposed to pin my faith to thyroid alone.

Ichthyol given in pills, 2 grains thrice a day, is a method of treatment which is certainly beneficial. How it acts I do not know, probably as an intestinal antiseptic, for purgation by salines is undoubtedly helpful, thus suggesting that intestinal toxaemia plays a part in the causation of the symptoms. For the artificial menopause produced by surgical operations a similar line of treatment should be adopted.

Uterine and Vaginal Discharge.

The presence of a discharge—the commonest ailment in women—is variously regarded according to the habits of the individual. By the unclean it is looked upon as an old friend, whilst to those of cleanly habit it is a source of continued distress.

The chief seat of production is the cervix uteri, and next to this the ducts and glands of Bartholin. The latter are frequently overlooked as a cause of chronic discharge, and in making a local examination the orifices of the ducts should be inspected and the glands palpated between the finger and thumb. It is in these situations that the gonococcus, snugly entrenched in his dug-out, lies in wait ready to smite the invader.

In association with discharge from the cervical canal there is found a varying degree of adenomatous growth,

* Delivered before the West London Medico-Chirurgical Society, December, 1918.

the so-called cervical erosion, surrounding the os externum. Remedial agents must therefore be applied to the cervical canal and to the surface of the erosion.

Carbolic, cautery, curette, cut—these four words summarize the treatment necessary.

Carbolic acid, just liquefied from the crystalline state, is an efficient local application, having the additional advantage of being painless. The cervical canal should be dried with antiseptic wool, and then the carbolic applied, care being taken that the application is not made above the level of the internal os uteri. The application should be made twice weekly, and if in six weeks' time the discharge is not cured no further local application should be made.

Cautery.—The electric cautery is of great service in the treatment of erosions, and can with care be applied to the interior of the cervical canal, but it causes pain.

Curette.—The curette is indicated when there is a hypertrophic erosion, and is best employed under a general anaesthetic.

Cut.—Marked erosions should be excised. Lacerations in the cervix should be repaired, and in women nearing the menopause where there is thickening and enlargement of the cervical tissues the cervix should be removed by supravaginal amputation. These operations I believe to be of importance in preventing the development of cancer.

Bartholin's Glands and Ducts.

A chronic gleety discharge issuing from the Bartholinian ducts is best treated by slitting the ducts, and if there be enlargement of the glands and cystic formation with intermittent accumulation of muco-pus, the cyst should be removed with the gland.

Applications may be made to the cervical and vaginal walls by means of tampons or soluble pessaries, and for this purpose ichthyol, 5 to 10 per cent. in glycerin, is a valuable remedy. In the treatment of uterine and vaginal discharge local applications are much to be preferred to treatment by douching. Soluble pessaries should be inserted every second night at bedtime, a diaper being worn to catch the dissolving fluid. This treatment should be continued for three weeks, and once a week a douche of tepid water containing two drachms to the pint of common salt should be used as a cleansing agent.

Time will not permit discussion of the treatment of gonorrhoea, but here, again, the direct application of local germicidal agents by the practitioner should entirely replace treatment by douching, etc., undertaken by the patient.

For vaginitis the direct application of remedial agents should entirely replace their employment by means of a douche.

Uterine and Vaginal Haemorrhage.

Bleeding from uterus or vagina is a symptom, and before giving advice or prescribing any remedy a careful examination should be made to ascertain the source of the bleeding and its probable cause. The possibility of the presence of malignant disease should never be forgotten, and should be carefully considered before any opinion is expressed.

Let me give three rules to serve as a guide:

1. Irregular bleeding during menstrual life demands careful local examination to determine the cause.
2. Profuse or irregular bleeding at the menopause should give rise to the suspicion that cancer is present.
3. Bleeding after the menopause should be regarded as being due to cancer.

By attention to these rules many early examples of cancer would be detected, and if treated by operation in the early stages many lives would be saved.

Having determined that the bleeding is not due to malignant disease or to a uterine or pelvic new growth, it may be found to be due to a fibrotic condition of the uterine wall—uterine fibrosis—or to adenomatous growth in the endometrium, the so-called fungous endometritis, or to a polypus or other causes.

If, then, it is assumed that the cause of the bleeding does not necessitate an immediate surgical operation and that medical treatment for a time at least is indicated, let us see what medical treatment can be employed.

Potassium bromide is one of the most useful drugs in the treatment of uterine haemorrhage, as it has a marked sedative effect on the genital organs. I am in the habit of prescribing it in the intervals between the periods, and the ergotin senecin co. of Parke, Davis and Co. during the period. The latter drug is given two days before the expected period and is continued during the period and for two days after its cessation. As an alternative to the ergotin senecin co. a mixture of ergot and dilute sulphuric acid may be used:

℞ Ext. ergotae liq....	...	...	...	♏ xx–xxx
Acidi sulphurici	...	...	...	♏ x
Magnesii sulphatis	...	...	...	gr. xx
Aq. cinnamomi ...	...	...	...	℥j

T.i.d.

As already mentioned, thyroid extract will be found a useful adjunct in the treatment of uterine haemorrhage.

When the bleeding is coming from the vagina the cause should be treated by local remedies or surgical operation. For bleeding spots seen on the vaginal wall after the menopause pure carbolic or tincture of iodine should be used. Injuries to the hymen or vaginal walls must be treated on ordinary surgical lines.

Displacements—Uterine and Vaginal.

The best treatment of uterine and vaginal displacements is prevention. This statement, although of the nature of a paradox, is none the less true. Extreme examples of prolapse stand forth as an opprobrium to our calling. They should become as rare as colossal inguinal herniae are to-day. Such herniae were common enough thirty years ago, but so much has been done by preventive and curative treatment that large herniae are now among the curiosities of surgery.

The careful conduct of labour and the puerperal state is one of the chief means of preventing displacements. The accurate repair of injuries to the perineum and vaginal walls, including the apposition of the separated levatores ani muscles, should be an essential part of obstetrical technique.

As a further means of prevention it should be made a rule of practice that *every woman should be examined six weeks after her confinement* in order to determine the state of the uterus and vaginal walls, and any defects should be corrected by appropriate treatment.

I can almost hear my audience say: This cannot be done, the women would object! To this I would reply that unless it is done no real advance will be made in prevention and we will only continue to muddle along in the same old way. I should like to ask a number of conscientious and experienced general practitioners this question: What proportion of your patients make a complete recovery from their confinements? I know of no reliable statistics on this subject, and I fancy if investigations were made the results would be somewhat startling. It is a commonplace to say that the results depend in large measure on the skill and care with which a woman has been treated during labour and the puerperium. But apart from all this there are causes at work which cannot be prevented even with the greatest skill and care. Too often, indeed, the medical attendant is most unjustly blamed.

Even if the possibility of infection could be entirely eliminated there are causes at work which leave their imprint in varying degree. There are still unfortunately many instances in which mild infections have produced local disease and a proportionate amount of general debility, but to these I will not make further reference. My object is to direct attention to the great group of sufferers whose condition is primarily caused by deficient restoration of organs and tissues to the pre-gestational state. This deficient restoration may now be considered as it affects (*a*) the abdominal walls and abdominal contents; (*b*) the uterus; (*c*) the vaginal walls and pelvic floor.

Abdominal Walls and Abdominal Contents.

Who can accurately foretell how a woman will stand the strain of pregnancy and labour? Labour is a great muscular effort, and yet how often this is forgotten by those who encourage the pregnant woman to lead the life of an invalid. Everything which is not inimical to the pregnancy should be done to promote and preserve muscular tone.

The abdominal walls are stretched in varying degrees in different individuals. In some there is little change, in others the musculature becomes a thing of shreds and patches, whilst between these extremes the amount of stretching encountered exhibits every variation.

The abdominal contents become loosened and there is a tendency to descent when the erect position is assumed. This condition becomes aggravated if as a result of pregnancy a woman has lost flesh. Thus nature teaches us that the woman's nutrition should be well maintained both during and after pregnancy. The retentive power of the abdomen is augmented by improving the muscular tone of its walls and by increasing the amount of fatty tissue. The thin woman whose abdominal walls have been overstretched and who has lost flesh as a result of her pregnancy will certainly suffer from a general descent of the abdominal viscera. The obvious indications for treatment are to restore the tone of the abdominal muscles and to provide adequate nourishment.

To restore the power of the abdominal muscles massage, faradism, and exercises are the best remedies. Massage of the abdominal muscles, if done by an expert, is most valuable. Indeed, I believe that the great majority of women would be benefited by abdominal massage begun ten or twelve days after labour, and continued for three or four weeks. Obstetric nurses should have instruction in massage, and so be available for this purpose. The faradic current, together with exercises to strengthen the muscles, are also of value.

I need not dwell further on the necessity for providing adequate nourishment for the pregnant and parturient woman.

Subinvolution of the Uterus.

Deficient restoration of the *post-partum* uterus is termed subinvolution. In other words, the uterus remains enlarged and heavy.

It is stated that the uterus returns to its pre-gestational size six weeks after labour. The truth is that it never returns to its pre-gestational size; there is always some change to be noted. Many years ago I made a series of observations on the rate of involution of the puerperal uterus in order to determine when it was desirable for a woman to assume the erect position after her confinement. I found that the rate of involution varied enormously, and that the size of the uterus and not the number of days *post partum* should be the guide in practice. If, as I have recommended, women were examined six weeks after confinement, it would produce valuable information regarding uterine involution.

I am convinced that in many women the uterus takes a much longer time than is supposed to return to anything approaching its pre-gestational size, and that this is one of the great causes of displacement in parous women. Such women complain of backache, bearing down, headaches, and a general feeling of malaise, and if a pelvic examination is made the cause will be detected. The uterus may sink downwards or fall backwards, and it is here that a pessary finds its most useful application. A pessary worn for four to six months will cure this condition, thus permitting the uterus to diminish in size.

Nux vomica or strychnine in small doses are the best medicines to prescribe, whilst rest during menstruation should be advised.

Deficient Restoration of the Vaginal Walls and Pelvic Floor.

Much has been written concerning subinvolution of the uterus, but little is written or taught about subinvolution of the vagina. Yet it is productive of much discomfort and misery to women so afflicted. It is much more frequently met with in practice and is another of the great predisposing causes of displacement. What really happens is that the vagina is overstretched as a result of the birth of a large child, a prolonged labour, or a precipitate labour with sudden expansion of the vaginal walls.

Clinically, three stages may be recognized: (1) The gaping vagina; (2) the bulging vagina; (3) the protruding vagina.

1. *The Gaping Vagina.*—When a woman with a gaping vagina lies on her side for examination it is possible to see the cervix uteri without the aid of a speculum; the vagina has become a patent canal. In this stage much can be done by treatment to produce a return to a more or less normal condition. For this purpose ovules of glycerin and alum gr. x should be inserted into the vagina; the bowels should be carefully regulated and attention paid to the regular evacuation of the bladder. The bladder should be emptied not less than four times daily, and after expelling the urine another attempt at expulsion should be made five or ten minutes later, in order to make sure that the bladder is really empty. In this way it is possible to eliminate the influence of the two elastic dilators, the bladder in front and the rectum behind, whose united action produces the second stage, the bulging vagina.

2. *The Bulging Vagina.*—The same treatment should be tried, and if it fails an operation for the restoration of the normal relations of the vaginal walls should be advised.

3. *The Protruding Vagina.*—When the vaginal walls protrude an operation is imperative.

Pelvic Floor.

Injuries to the pelvic floor, badly repaired or badly united in consequence of septic infection, exact a heavy toll from the parturient woman. But in addition to these, overstretching of the tissues involved plays an important part in producing subsequent disability. The levatores ani muscles become widely separated and the rectum covered by the posterior vaginal wall bulges forwards in the cleft so produced. For such a condition the only remedy is an operation planned to produce a correct anatomical restoration. There is a pernicious doctrine in existence to the effect that a woman should have had all her children before any attempt is made to repair the vaginal walls or pelvic floor; and even then she is encouraged to suffer until the menopause, which is depicted as akin to the millennium, when all things shall cease from troubling.

Women so afflicted are numbered not by hundreds but by thousands; they crowd the out-patient departments, the dispensaries, and may end a life of suffering and discomfort in the workhouse infirmary. Yet it is all preventable; and, as so aptly remarked by the late King Edward VII, "if preventable, why not prevented?"

All injury or deficient restoration, the result of childbirth, which is not amenable to medical treatment, should be promptly relieved by surgical methods.

A woman may suffer from all of the effects already described, or only one, or more than one, and for such the necessary methods of treatment can be combined.

A Clinical Lecture
ON
GONORRHOEA IN WOMEN.

GIVEN AT THE MANCHESTER ROYAL INFIRMARY, NOVEMBER, 1918.

BY

W. E. FOTHERGILL, M.A., B.Sc., M.D.

GONORRHOEA in women is an acute infective fever with local lesions which occur in two groups, affecting the external and the internal reproductive organs respectively. The reason for these two groups lies in the fact that the vagina intervenes between the external and the internal organs and acts as a check to infections ascending the genital tract. The gonococcus lives well on cylindrical epithelium. Thus it invades the glands opening into the vulva, the urethra and the glands opening into it, the glands of Bartholin, and their ducts. But the tough, thick lining of the vagina has no glands to speak of opening on its surface, which, further, is bathed in an acid secretion. So it checks the upward spread of the infecting organism and in many cases the lesions remain limited to the external organs. If the cervix is once infected, the gonococcus spreads easily over the mucosa lining the cervical canal, the uterine cavity, and the Fallopian tubes; and thus is formed the internal group of gonorrhoeal lesions.

I. ACUTE EXTERNAL GONORRHOEA (VULVITIS).

When the glands in the skin of the vulva are infected, the classical signs of inflammatory reaction quickly appear—namely, pain, heat, redness, and swelling. The urine

scalds and there is a free muco-purulent discharge in which gonococci are easily demonstrated. If the patient keeps the inflamed parts clean and thus avoids the complication of septic infection, the condition runs its course, and after some days the symptoms begin to abate. The urine ceases to scald, the redness and swelling disappear, and the patient can once more sit and walk without discomfort. The discharge subsides to its normal quantity, and gradually gonococci cease to be found. The whole incident is soon forgotten, and, as a rule, no permanent effect remains. Women have so much to put up with in one way and another that they do not take much notice of attacks of acute external gonorrhoea at ordinary times. During pregnancy, however, and soon after labour, when the parts are in a state of physiological hyperaemia, gonorrhoeal vulvitis assumes an aggravated form, which often keeps the patient in bed, and sometimes comes under medical observation. In children also the condition is more severe than in adults. When you have entered upon the actual work of medical practice, if you do happen to see a case of acute external gonorrhoea, do not order vaginal douching, for this is an effective way of conveying infection up to the cervix. Keep the patient in bed with loose bowels, vegetarian diet, and no alcoholic drink. Let her sit for a few minutes two or three times a day in a bowl of warm water in which a little potassium permanganate has been dissolved, but do not do too much in the way of local treatment or you will prolong the duration of the complaint by irritating the tissues concerned.

II. Persistent Septic Vulvitis.

In women of uncleanly habits and in those who are submitted to irritating local treatment, septic infection is often superimposed upon acute gonorrhoeal vulvitis. The mixed infective state so produced tends to pass through a subacute phase and then to be indefinitely prolonged. Instead of recovery there is lasting soreness and discharge and the vagina ultimately becomes involved. The glands in the groins may suppurate. The glands of Bartholin may be the seat of abscesses which burst, leaving sinuses which fail to heal. The urethral orifice may pout permanently and the glands within the urethra may form retention cysts which may suppurate in their turn. These cases of persistent vulvitis and vulvo-vaginitis come under medical observation every day. Their striking feature is this: You may examine the discharge unto seventy times seven, so to speak, without finding any gonococci. Thus it is not possible to say that any particular case has ever been gonorrhoeal. Many a septic vulvitis dates from septic infection following the rupture of the hymen or laceration of the perineum during labour. But the point is that though most of these cases have begun as acute gonorrhoea, they are not cases of chronic gonorrhoea.

It is obvious that a patient with septic vulvitis may from time to time be infected with fresh strains of gonococci, and when this happens gonococci are found, for a time, in her discharge. Thus it is that a series of attacks of acute gonorrhoea may be mistaken for and called chronic gonorrhoea. The treatment of septic vulvitis is not satisfactory unless the patient is in bed in a hospital or nursing home.

III. Acute Internal Gonorrhoea.

When the cervix and uterine cavity are infected there is pain in the lower abdomen accompanied by some fever. The pelvic organs are swelled and tender, and pus, in which gonococci are easily found, flows freely from the os externum into the vagina. The swelling of the endometrium may so close the openings of the Fallopian tubes into the uterus that the infection does not enter the tubes, but remains limited to the uterine cavity. Again, the tubes themselves may be involved, but their openings into the pelvic cavity may be closed by the inflammatory reaction, so that the infection does not reach the pelvic peritoneum. Thus the narrow orifices at the inner and outer ends of the tubes may either of them act as bars to the progress of the ascending infection. If gonococci reach the peritoneum, inflammatory reaction quickly mats the viscera together and shuts off the pelvic basin from the rest of the abdominal cavity. It is therefore very bad treatment to open the abdomen during an attack of acute internal gonorrhoea. But if perchance this is done the organs are seen reddened and swelled, and gonococci are readily demonstrated in the content of the tubes and in the fluid from the pouch of Douglas. Recovery from acute gonorrhoea of the internal organs is the rule, but a permanent result is generally left behind—namely, sterility; for the tubes remain sealed at one point or another although they may return to their ordinary size, so that bimanual examination does not reveal any pelvic abnormality. The general treatment is rest in bed with loose bowels, vegetarian diet, plenty to drink but no alcohol. No local treatment is necessary, and, on the whole, the less local interference the better.

IV. Lasting Results of Acute Gonorrhoea.

If a Fallopian tube remains closed at both ends and distended by its content it becomes a "pus tube," or pyosalpinx. Such distended tubes, together with the damaged ovaries adherent to them, form permanent tubo-ovarian masses which can be felt, beside the uterus or behind it, on bimanual examination. Such masses often feel larger than they are because of the coils of bowel which are matted together with them. A retroverted uterus with tubo-ovarian masses on one or both sides forms a characteristic combination. The presence of these permanent results of acute inflammation is compatible with perfect freedom from symptoms. Indeed, many women whose pelves contain swellings of this kind earn their living in active callings. But in many cases the subjects complain of more or less pelvic discomfort and pain with menorrhagia, dysmenorrhoea, and general ill health. When this state of things has pertained for some time the victim may seek surgical relief, which can only be guaranteed, as a rule, by the removal of both the tubes and ovaries together with the body of the uterus. The striking fact is that the content of these pus bags is sterile. The patients are not suffering from chronic gonorrhoea but from the results of a previous acute infective process the exact nature of which it is not possible to determine. As a rule, pus bags in people who have had no confinements or abortions are gonorrhoeal in origin. The nature of infections following labour and abortion is less clear.

V. Acute Recurrent Attacks of Pelvic Infection.

A woman who has old infective lesions in her pelvis is always subject to acute recurrent attacks of pelvic inflammation, which may have fatal results. During such attacks patients are constantly admitted to hospitals as "acute abdomens," and are often submitted to immediate operation. The pus found in the pelvis on these occasions is proved to contain virulent organisms of various kinds, but no gonococci. Thus it appears that these familiar attacks of acute recurrent pelvic inflammation are not due to the lighting up of "latent gonorrhoea," as has often been assumed, but are caused by the fresh infection by other organisms of tissues damaged by previous inflammatory processes, sometimes long forgotten. The fresh infection may come by the blood stream from some distant focus, such as a septic tonsil or throat. Or it may come from an adherent appendix vermiformis or some other portion of the intestinal canal, such as a diverticulum of the intestinal mucosa into one of appendices epiploicae. The fresh infection seldom ascends by way of the genital canal; indeed, in these cases, that route is usually closed by interruptions in the continuity of the tubes.

Conclusion.

We have thus arranged the cases in which the gonococcus plays an etiological part in five groups:

External—
- I. Acute vulvitis (gonococci present).
- II. Persistent vulvo-vaginitis (no gonococci).

Internal—
- III. Acute metritis, salpingitis, etc. (gonococci present).
- IV. Lasting results (sterile).
- V. Acute recurrent attacks (no gonococci).

Experience shows that Groups II, IV, and V, in which gonococci are not found, include the great majority of these cases seen by medical men, and that the cases forming Groups I and III but seldom come under medical observation. We try to cure persistent septic vulvitis with no gonococci; we remove sterile pus tubes, and we deal with pelvic abscesses containing various virulent organisms other than gonococci.

Thus we treat remote and indirect results of gonorrhoea; but of gonorrhoea itself we see little, because women

actually suffering the acute phases of the disease but rarely consult us. There are other infective persons who never consult us at all. For the question arises: By whom is gonorrhoea spread abroad? There may be persons in whom gonococci can live for a long time without causing any symptoms, just as there are "carriers" of the organism of enteric fever—they have not "typhoid" themselves, but they can give it to others. Carriers are not said to have "chronic enteric fever," and possibly it would be wise to drop the term "chronic gonorrhoea."

It is probable that most of the persons who transmit gonorrhoea are frequently reinfected with fresh strains of gonococci, and really are the subjects of repeated mild attacks of acute gonorrhoea. Man and wife, for example, may continue to reinfect one another time after time, so that it is only after separation that either of them ceases to be infective. After you have entered upon the practice of medicine you will avoid many complications if you always think at least three times before stating that a person is free from venereal disease. It can be acquired again so quickly. There is not much gained by seeing an habitual drunkard through one drinking bout, and it is rather futile to attack venereal disease by founding clinics where all comers can be treated at the public expense. You cannot cure drunkenness unless you can keep people from drinking.

PULMONARY SPIROCHAETOSIS.

A PRELIMINARY NOTE ON SPIROCHAETES IN THE SPUTUM OF SOLDIERS ADMITTED TO SPECIAL MALARIA WARDS.

BY

J. A. THOMSON, CAPTAIN R.A.M.C.

HAVING been for some time in charge of the laboratory at a malaria centre, my attention was drawn to the frequency with which samples of sputa were sent to the laboratory accompanied by requests for examination for tubercle. The number of the cases of tubercle was small.

Later, being put in charge of both wards and laboratory of a special hospital for malaria, I came into more direct contact with the patients and was able to see and study for myself the conditions which had caused medical officers to suspect tuberculous infection.

Briefly expressed, these conditions were:

(*a*) The chronic debilitated state of many patients.

(*b*) Complaints of coughs of long duration made by many of them, but not associated with definite physical signs in the lungs.

(*c*) That, although sent into hospital as cases of malaria, blood examination for malaria was very frequently negative, and, although kept in hospital under antimalarial and tonic treatment, many patients did not make satisfactory progress towards recovery, but remained suspects of some other chronic condition, such as tubercle, neurasthenia, or D.A.H.

Having found spirochaetes in considerable numbers in the sputum of one patient, I systematically examined the sputum of all patients complaining of coughs, by simple stains and by the special stain for tubercle. Unfortunately I had not proceeded with this investigation for more than about three weeks when I was transferred to another sphere of duty; yet in that short time I was able to collect sufficient material to show that pulmonary (or bronchial) spirochaetosis in a chronic form was apparently prevalent amongst the group of patients I had been dealing with.

I reported my findings to Colonel Sir Ronald Ross, Consultant in Malaria, who has advised me to publish a note upon them. This is rather premature; the findings may or may not be of much pathological importance, but the subject seems to be one of interest and deserving of further investigation.

The first case in which I found spirochaetes was one that might very reasonably have been suspected of tubercle. He gave a history of chronic cough, never very severe, but dating from his period of service in Salonica. He was sallow, had lost some weight, but was neither markedly wasted or anaemic. He did not feel fit, was easily tired, and got short of breath after moderate physical effort. He had been invalided home on account of malaria, and since his arrival in this country he had been in several hospitals, with short intervals at his dépôt.

For periods of three to four days, and at about three weeks' intervals, he described himself as feeling "queer"—a feeling, as far as I could understand, of malaise and feverishness, which he distinguished from his former malarial attacks. When admitted to my wards, although sent in as a case of malaria, his blood was negative, and although kept under observation for over a month, frequent blood examinations always gave negative results. He had a morning cough, not very troublesome, but accompanied by expectoration. Physical signs in the chest were indefinite—a râle here and there, but nothing to implicate any particular area of lung. The sputum was clear and jelly-like, but he said that during his "queer" periods his sputum was blood stained, and this statement was twice confirmed whilst he was in hospital by the sputum assuming a pink jelly-like character. His temperature in hospital zigzagged above and below the normal line from 97.5° and 98° F. to 99° and 99.5° F.; there were no acute rises or rigors. Repeated examinations of sputum for tubercle were always negative, but spirochaetes were always found in considerable numbers and more abundantly when the sputum was blood-stained.

There was no pyorrhoea, but to eliminate the possibility of mouth spirochaetes instructions were given to wash the mouth and gargle the throat with weak permanganate before samples were collected, and to collect only what he definitely felt to come from the lungs.

Taking my cue from this case I proceeded to examine systematically the sputa of all cases in which cough was present. All were given the same instructions about cleansing their mouths and throats before collecting samples. Films of each case were stained for spirochaetes and for tubercle. From October 3rd, 1918, to October 21st, 1918, 79 cases were examined; 39 cases showed spirochaetes and in 2 tubercle bacilli were present.

The character of the sputa of cases in which spirochaetes were present varied. The most common type was clear, jelly-like, and non-aërated. A few cases were described as purulent, more as muco-purulent. In three cases (all without tubercle bacilli) the sputum was blood-stained; they included:

(*a*) The case already described as having intermittent expectoration of pink jelly-like mucus.

(*b*) One in which there were three frank haemoptyses whilst in hospital; never very much blood at a time—about one to two teaspoonfuls amongst a quantity of jelly-like mucus.

(*c*) One case of muco-purulent expectoration streaked with blood on many occasions. This case, however, had definite pyorrhoea to a moderate degree, and I was never quite satisfied that the samples were not mixed with mouth secretions. He was peculiar in that at intervals of ten to fourteen days he had definite sharp rigors, with temperature up to 102° and 103°; the febrile periods were more prolonged than those usually seen in cases of ague, lasting as a rule into the following day and terminating in profuse perspirations. I examined his blood frequently during rigors, during the febrile periods, and during the intervals between his attacks. Malaria parasites were never found, and according to his own statement, although invalided home as a case of malaria, repeated blood examinations in Salonica never showed the presence of malaria parasites.

In addition to complaints of cough many of the patients exhibited a combination of symptoms which is often seen in the wards of a special malaria hospital.

(*a*) Poor general physique, weakness, and listlessness.

(*b*) Tachycardia either after or without physical effort.

(*c*) Shortness of breath after slight exertions.

(*d*) Systolic cardiac bruits both at apex and at base, which if not heard when the patient is at rest in bed, develop readily after slight effort.

(*e*) Low vasomotor tone, made very obvious by lividity and coldness of hands when the patient has been standing, and by the soft inelastic feeling of his body tissues.

(*f*) Nervous debility—tremors of hands and tongue, low spirited and disinclined for mental or physical effort.

(*g*) In many the temperature zigzags slightly above and below the normal line.

Although low and weak in health these patients do not show the cardinal signs of malarial cachexia so often seen amongst natives of malarial countries. There is no appreciable enlargement of the spleen, and no severe degree of anaemia. As a rule the blood is negative on admission, and remains so during their stay in hospital, but in this connexion it must be remembered that practically all patients admitted to special malaria hospitals are readmissions from other hospitals, and have already been treated with quinine.

These cases do not tend to show the marked improvement in health which frank malaria cases do when put upon antimalarial and tonic treatment; they remain suspects of some other disease.

All my cases in which spirochaetes were found were men invalided home from Salonica on account of malaria. All had pretty much the same history of chronic invalidism, months spent in hospital with occasional short visits to dépôts where they apparently never did any useful work and where they were regular attendants on sick parade. The total amount of quinine which had been taken by many could be reckoned in pounds rather than ounces. It was not always easy to determine if these men actually got fever at their dépôts; whatever their febrile attacks were it is certain that in many cases they were not characteristic of the regular malarial rigors; in many cases the men were able to say definitely that the attack was not like their old malarial attacks.

I am inclined to believe that many men suffering from the train of symptoms I have described above do get attacks of fever when exposed to the physical and physiological strains of camp life and that these attacks are in many cases not malarial in origin.

How far the above train of symptoms is due to organic degeneration of tissues produced during the acute stage of malaria abroad and never recovered from, is difficult to say. Other factors, too, go to confuse judgement, such as the general physical and mental stress and strain of war service, and the possibility of other infections such as trench fever. All I wish now to do is to point out that chronic pulmonary (or bronchial) spirochaetosis is present in many of these cases. It may be a cause of the debility, or the debility may merely afford favourable conditions of environment for spirochaetes. Further investigation and research would be necessary to estimate the true significance of the presence of spirochaetes in these cases—research along therapeutic lines with drugs known to be antagonistic to this group of organisms.

So far as I could ascertain from the physical signs, which were always of an indefinite character, there appear to be no serious pulmonary lesions.

The spirochaete has tapering extremities and a gently undulating outline without spirals. It affects various attitudes, sometimes extended, often bent on itself; when numerous they often appear entangled with each other. The spirochaete stains easily with ordinary stains; fairly strong carbol-fuchsin (one part carbol-fuchsin to two or three parts water) for a minute or two gives good results, so also does a strong watery solution of gentian violet. Silver nitrate preceded by tannic acid as for *Treponema pallidum* is good, but the films must be very thin to get satisfactory results, and for that reason, when spirochaetes are scanty, a much longer search is required.

NOTE ON THE EPIDEMIOLOGY OF AMOEBIC DYSENTERY.

By H. M. WOODCOCK, D.Sc.,

PROTOZOOLOGIST TO THE FORCES IN EGYPT.

(From the Military Laboratory, Jaffa, E.E.F.)

WENYON AND O'CONNOR, while in Egypt, demonstrated* that amoebic cysts (including those of *E. histolytica*) can pass successfully through the alimentary canal of house-flies, to be voided in the faeces, wherever these may be deposited; and they also found the cysts in the intestine of caught "wild" flies. As a result of their experiments, these workers concluded—somewhat hastily, perhaps—that house-flies are a very potent factor in the spread of amoebic dysentery. Since then there has been a general disposition to regard the fly as the chief agent by which this infection is spread.

During the past two years I have had the opportunity of studying the incidence of amoebic dysentery in various parts of Egypt, and before I had been long at work I formed the opinion that far too much stress had been laid upon the part actually played by flies in the transmission of this disease. Some factor other than flies is essential—a factor, moreover, which does not appear to be of nearly so much importance in the spread of bacillary dysentery.

In the southern canal area, where I was stationed for over a year, flies were abundant, especially during autumn and spring. Amongst British troops bacillary dysentery was very common, whereas the amoebic type was rare. I gave details of the various infections in the *Journal of the Royal Army Medical Corps* for September, 1917, so it must suffice here to state that about 75 per cent. of the total stools examined were those of bacillary dysenterics. Barely 2 per cent., on the other hand, were amoebic. Among Indian troops, it is interesting to note, amoebic dysentery prevailed to a considerably greater extent, 12½ per cent. of the dysenterics showing active *E. histolytica*, while this parasite was found, in one phase or another, in 15 per cent. of the total stools. Nevertheless, there was, I consider, little or no *increase* in the number of infected men—that is, no appreciable spread of the infection in this area—because the percentage of cases of amoebic dysentery was distinctly *less* than the percentage of Indians (about 20 per cent.) who were found to be normally carrying the cysts of *E. histolytica*; and the great majority of these men had come direct from India to Egypt. That is to say, amoebic dysentery among the Indians occurred, at any rate mainly, in men who were already carriers. The hardships and stress of active service in the field had tended, in a number of these men, to lower the vitality and impair the resistance of the bowel, and as a consequence an attack of amoebic dysentery resulted.

Now, if flies are the principal factor in the transmission of amoebic infections, how is it that, while flies were abundant *and bacillary dysentery very common* amongst the British troops, amoebic dysentery, and incidentally all intestinal protozoan infections, were nevertheless rare? It cannot be maintained that the sanitation (using the term comprehensively, to include fly-prevention) was so perfect that the cysts had no opportunities for dissemination, because there is the fact that bacillary dysentery—which is, most probably, in the main fly-borne—was prevalent. It is evident that, whether the fly is or is not an important vehicle of transmission in the case of amoebic dysentery, some essential factor was lacking. This factor is water—moisture and humidity—which in my opinion is more important than any number of flies; and latterly there has been too great a tendency to overlook this essential factor in the transmission.

It has long been known that amoebic cysts cannot withstand drying. On the other hand, it was shown by Penfold, Woodcock, and Drew[1] that the cysts of *E. histolytica* can retain their vitality—proved by their ability to excyst—in water for at least a fortnight, and probably for a longer period. And the significance of these two opposing biological points in their bearing on the successful propagation of the species has not hitherto been sufficiently recognized. A fly very rarely (unless accidentally) alights on a liquid surface; its minute droplet of faeces is practically always deposited on a dry surface. Hence in hot countries—such as those in which amoebic dysentery is common—the droplet dries up in an instant or two. The chances of the survival of the cysts and successful infection of a new host by this method of contamination are therefore extremely slight. Now, under what climatic conditions is amoebic dysentery found to be most prevalent? Under conditions such as those obtaining in India and Mesopotamia, for instance, especially in areas which possess during certain seasons of the year a very damp climate with a high degree of humidity. In such lands there is an excellent chance for the survival of the cysts deposited in human faeces and for their successful dissemination by the agency of moisture in various ways.

In this connexion Egypt occupies a particularly interesting position. Over a large area (including the southern canal zone) this is a very hot and dry land, with scarcely any rain and a low degree of humidity. An exception is provided by the coastal fringe bordering the Mediterranean, where the humidity is much greater, owing chiefly to the moisture-laden northerly winds. Hence, on the above view, one might expect to find a higher percentage of amoebic infections in this northern district than in that in which I was at first working; and I soon had indication that this was the case. At Suez I found that the percentage of carriers amongst the native population was only 4 to 5, considerably less than that noted by Wenyon and

* In a Memorandum published in Egypt in 1916, and reprinted in the *Journal of the Royal Army Medical Corps*, May, 1917.

O'Connor working at Alexandria (about 12 per cent.). But, on the other hand, it may be mentioned that amongst E.L.C. men and Turkish prisoners of war, *coming from Mesopotamia*, and examined while in the quarantine camps near Suez, I found nearly 12 per cent. to be infected with *E. histolytica*. Conversely, out of over fifty prisoners from the Hedjaz (Arabia) I did not find a single carrier.

In the summer of 1917 I was transferred to Kantara, and dealt there entirely with cases of dysentery, etc., occurring amongst troops east of the canal, in the northern coastal district alluded to. And I soon found, as expected, that there was a distinctly higher incidence of amoebic infections amongst the British troops than I had met with in the southern canal area. For the corresponding season (April–October),* the percentage of amoebic dysenterics—that is, with active *histolytica*—was 7 per cent. of the total dysenterics, as against 2½ per cent.; and the percentage of *histolytica* findings (all forms) in the total stools examined (over 2,000) was 5.2 per cent., compared with slightly under 2 per cent. On the other hand, the percentage of definite bacillary dysenterics to the total stools was much less than at Suez—namely, 37 per cent., compared with 75 per cent.—the fly campaign being probably more vigorous and effective.

Thinking it would prove instructive to compare the variations in the amoebic findings with the variations in the relative humidity, I requested the Physical Department of the Public Health Bureau, Cairo, to let me have, if possible, tables showing the relative humidity at Port Said (the nearest station available in the northern district) for the corresponding season in the two years 1916 and 1917 respectively. This information was very courteously afforded me, and I find that while the average mean relative humidity of Suez for the months March to October inclusive, 1916, was only 48.5 per cent., that of Port Said for the same period, 1917, was 75 per cent. I have constructed the accompanying chart, comparing the mean relative humidity at Port Said with the incidence of amoebic infections, in monthly periods, during the season 1917, and an interesting general correlation between the curves is shown. Curve A, indicated by a broken line, gives the actual number of amoebic dysenterics (with active *histolytica*); Curve B (a dotted line) shows the percentage of the total findings of *histolytica* (active forms or cysts) to the number of stools examined; while Curve C (continuous line) indicates the relative humidity. (The amoebic curves begin in April, as that was the first complete month the laboratory was open.)

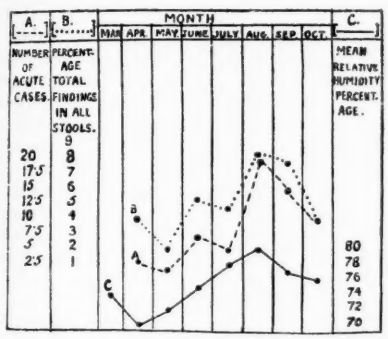

Chart showing comparison between amoebic (*E. histolytica*) findings and relative humidity: season 1917.

Two or three points brought out by these curves may be noted: (1) Following upon the low relative humidity for April—a dry month, probably on account of Khamseen winds—there is a distinct drop in the amoebic infections for May, the fall being more pronounced in the curve representing the total percentage of findings. (2) On the other hand, the month with the highest relative humidity (August) is also that in which both the amoebic curves reach their highest level, and the rise has been greatest in the acute cases. The reason for this slight divergence is probably that the *degree* of infection in the first instance is less in the early months, and so a longer time is required for it to gain a hold and become readily apparent. (3) There is a slight drop in the amoebic curves for July which has no counterpart in the relative humidity curve.

Now, an important fact is that while, after August, the amoebic curves steadily fell along with the relative humidity curve, the bacillary dysenterics rose to their maximum for the season in October, both as regards actual number (264, compared with a monthly average of 123) and in the percentage of total stools—this being over 56 per cent., as against an average of 37 per cent. And it was especially noticed that flies were most numerous during September and the beginning of October.

It is clear, I think, that for amoebic dysentery (and equally for other protozoan infections) to be prevalent in a particular area, the first necessity is plenty of moisture and a high degree of humidity. There can be little doubt that water is the principal vehicle of transmission, infection resulting by such means as drinking contaminated water, eating uncooked moist food (fruit, "greens") which has been fouled. In districts where amoebic dysentery is known to be common, the elimination of "carriers" amongst men who are cooks, or in any way concerned with the preparation or distribution of food and drink, should be aimed at in order to reduce the liability to infection of troops. There is little indication that flies themselves play actually any important part in the spread of amoebic or other intestinal protozoan infections, but considerable evidence that they are a main factor in the spread of the bacillary type of dysentery.

It would be very useful to have data corresponding to those which I have given above from workers in the military laboratories in Mesopotamia. Owing to the intense relative humidity of this country during certain seasons one would expect to find a still higher percentage of amoebic infections amongst the British troops there than has been met with in any part of Egypt.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, 1916, i, p. 714.

* For the amoebic findings of the months April–July inclusive, I have the kind permission of Captain Stuart, officer in charge of the laboratory, to use the laboratory records, as I myself did not take up this work there until August. The findings until then were made by Captain O'Connor and Captain Stuart.

THE TRIANGLE SPLINT IN THE TREATMENT OF COMPOUND FRACTURES OF THE HUMERUS.*

BY PHILIP TURNER, M.S.LOND., F.R.C.S.ENG.,
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THE standard method of treating compound fractures of the humerus by the Thomas's arm splint has undoubtedly many advantages. The fractured arm is fixed in a position of abduction, and, when extension is applied and supports for the limb are adjusted, the fractured ends of the bone can generally be got into good position. Dressings are easily carried out with the least amount of pain and without disturbing the position of the fragments. It has, however, certain disadvantages. The chief of these is that a prolonged stay in bed is necessary, often for many weeks, and the patient is in a more or less helpless condition, even though the wound may be doing well, and the general condition may be perfectly satisfactory. Another drawback is the prolonged fixation of the elbow in the extended position, leading to considerable stiffness in that joint as well as in the fingers and the wrist. Also, unless efforts be made to correct it, there is apt to be an internal rotation of the lower fragment, as shown by the tendency of the hand to assume a position of full pronation. There is also the difficulty of transport with the arm abducted, though this has been largely overcome by the use of the "swivel" modification suggested by Major M. Sinclair, R.A.M.C. The triangle splint described below, which has been used in this hospital for about a year, helps to overcome these disadvantages.

Each splint is made to measurements taken from the man for whom it is intended. This point is of considerable importance, as subsequent comfort depends largely upon the splint accurately fitting the arm and against the chest. An *x*-ray examination should first be made and the plates inspected to ascertain the site of the fracture and the position of the fragments, for in this way one is able to estimate the extent of abduction necessary.

The measurements are taken from the uninjured arm, the patient lying flat in bed with the arm abducted to the required extent, the elbow being flexed to a right angle and the forearm

* A paper and demonstration before the Treport Medical and Surgical Society.

held vertically. Any shortening due to loss of bone must be allowed for. The distance between the apex of the axilla and a point 1 in. above the highest part of the iliac crest is then measured and forms the inner side of the triangle. The outer side is the distance between the apex of the axilla and the tip of the olecranon process, while the base of the triangle is the distance between the olecranon and the point already fixed upon just above the iliac crest. The amount of abduction called for will determine the length of the base of the triangle. Any degree of abduction of the shoulder-joint between 30 and 80 degrees can be obtained. The triangle is now made from three pieces of 4½ in. splint boarding, cut to the measurements taken, and firmly fixed together. A support for the forearm is made from

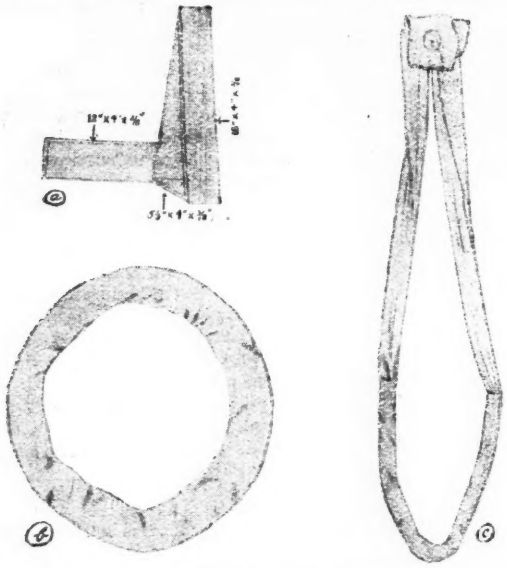

FIG. 1.—Showing the triangle splint (*a*), the shoulder ring (*b*), and the perineal band (*c*).

the same splint boarding of sufficient length to reach from the olecranon to the heads of the metacarpals. This is screwed to the lower end of the outer side of the triangle, so that it projects in a forward direction. The sides of the splint which rest against the chest, arm, and forearm are well padded, including the upper angle, and the whole is covered with jaconet. The splint ready for application is shown in Fig. 1.

The principle aimed at is to fix the injured limb in a position of abduction, with the humerus in a natural position intermediate between internal and external rotation, or with possibly a slight degree of the latter. To ensure this position the forearm must project directly forwards, and not be rotated inwards across the chest. The fixation of the splint is thus of great importance; simply to fix the splint to the chest by strapping and a bandage, and to secure the upper angle by a bandage or sling over the opposite shoulder, will not be sufficient. If too loosely secured the apex of the splint will drop away from the axilla, and, as the patient moves about, the upper angle will probably, owing to the weight of the forearm, tilt forwards, and the lower angle backwards. The whole splint will move about on the side of the chest instead of taking a firm support from it, so that the fracture will not be immobilized, and there will be much pain and discomfort, calling for constant alteration and readjustment. The most important points about fixation are to firmly secure the upper and lower angles of the splint, especially the former.

To fix the upper angle a soft ring is made which fits comfortably over the opposite shoulder (Fig. 1, *b*). The ring is easily made by sewing a piece of four-inch flannel bandage about twenty inches long round a piece of thick rubber tubing one inch in diameter and the same length. The two ends are then sewn together so as to form a ring, which will be about one inch thick and six inches in diameter. If the tube cannot be obtained a satisfactory ring can be made by sewing the bandage round a thick layer of wool, but an india-rubber basis is preferable. The ring must not be too narrow or the pressure will chafe the skin, or too thick, when it will interfere with movements of the sound arm. The ring should fit in front into the concavity of the outer half of the clavicle, and below it should rest against the chest wall just below the axillary folds. For a small man the internal diameter of the ring will be about five inches, while for a bigger man an inch or two more will be required. The ring having been placed in position on the sound shoulder, the upper angle of the splint is fixed by passing a length of strong bandage beneath the axillary angle of the triangle. One end is then threaded through the ring in front and the other behind, and the ends are then brought back and securely tied, the knot being in all cases beneath the upper angle of the splint. The principle of this method is that the weight of the splint, and so of the injured limb, is supported from the circumference of the opposite shoulder. The upper end having been fixed, the lower angle is secured by a perineal band. This, again, is easily made from a yard of flannel bandage, the middle third or so being sewn round a rubber tube or layer of padding (Fig. 1, *c*). The central part may with advantage be covered with jaconet. The perineal band is tied above the lower angle of the splint sufficiently tightly to steady the splint, but not so tightly as to draw it down from the axilla.

This splint was first employed for fractures of the surgical neck of humerus. In these fractures the small upper fragment, which cannot be controlled, is generally abducted and externally rotated. The triangle splint in such cases ensures abduction of the lower fragment to the required extent and also prevents internal rotation. If there is comminution and fissures which extend into the head of the humerus, the arm should be abducted as much as possible on account of the probability of ankylosis. In some of these fractures there is little or no displacement, and it has been advised that certain of these may be treated without any splint, the arm being simply bandaged to the side. Though possibly some of these cases may be satisfactorily treated in this way, yet, in view of the tendency to abduction of the upper fragment and the possibility of limitation of movement in the shoulder-joint, the triangle splint offers a convenient method of fixation and treatment. In some cases where the displacement is slight, and where the wound is small and the infection is not serious, the triangle splint may be applied at once, but in those where the displacement is serious, or where there is much comminution, or where there is severe septic infection, it will be best to put up the arm on a Thomas's splint in the abducted position for about three weeks until the wound is healthy and there is some attempt at union. As a late measure the Thomas's splint may then be removed and the triangle splint substituted.

In gunshot fractures of the upper and middle thirds of the shaft the severity of the fracture and the displacement will vary very greatly. Generally speaking, the upper fragment will still be abducted, though in some fractures of the upper third of the shaft the upper fragment may be abducted by the action of the pectoralis major, the lower fragment being abducted by the deltoid. In all these cases an *x*-ray examination will indicate the amount of abduction which is desirable. The principles which guide the treatment in these cases are similar to those mentioned for the treatment of fractures of the surgical neck—namely, if the wound is not seriously infected and the displacement is slight, the triangle splint may be applied at once. If the wound is very septic, or if there is severe comminution and displacement, a Thomas's splint should be used until there is sufficient improvement to allow a triangle to be substituted for the Thomas's splint. Cases of fracture of the humerus where there has been great loss of bone, or where the wounds are large and septic, or where secondary haemorrhage is likely, are not suitable for treatment on the triangle splint, and this splint should not be used for fractures of the lower part of the shaft, or for fractures involving the elbow-joint.

FIG. 2.—The triangle splint applied to the right arm, showing the position of the forearm while the patient is lying down.

To sum up: the triangle splint may be used at general hospitals for the permanent treatment of fractures of the surgical neck, upper and middle thirds of the shaft of the humerus where displacement is not serious and wounds are clean or mildly infected. It may also be used with advantage in a later stage of the treatment of many of the more serious cases after these have been treated on a Thomas's splint until the wounds and the fracture have sufficiently improved.

In addition to these fractures of the humerus, the triangle splint has been used (1) for fractures of the scapula extending to the glenoid cavity and opening the shoulder-joint; (2) for wounds of the shoulder-joint, with perforation or growing of the head of the humerus; (3) for severe wounds of the shoulder-joint which have called for excision of the head of the humerus.

The splint is applied in the following way: In some of the simpler cases no anaesthetic is required, but often either the presence of a missile, or the desirability of providing drainage, or the removal of loose fragments, renders an anaesthetic necessary. When a change is being made from a Thomas's splint to a triangle, an anaesthetic is advisable chiefly on account of the pain caused by flexing the elbow, which has been in the extended position for some weeks. After the arm has been abducted the splint is placed in position, the ring is slipped over the sound arm, and the upper angle is fixed in the manner already described. The lower angle of the splint is now secured by the perineal band. The arm is then firmly held just above the condyles of the humerus so as not to disturb the fracture, and the elbow is gradually flexed to just over a right angle. Passive movements of pronation, supination, flexion, and extension of the wrist and fingers may also be carried out. The patient's fingers are held flexed over the end of the splint, extension is applied from the elbow, and the arm and forearm are fixed to the splint by bands of strapping above the elbow, below the elbow, and above the wrist. It is well to place an extra pad of wool between the internal condyle and the splint, and a broad flannel bandage may be run round the patient's chest and the inner side of the triangle. The dressing is now applied, and additional support is given to the fracture by a piece of Gooch's splinting cut away obliquely in front so as to encircle the arm on its anterior, external, and posterior aspects. There is often some pain in the elbow for a day or two, but the patient soon becomes accustomed to the new position of his arm. If the ring is not too large or too thick it will cause no discomfort, but if the suspending bandage seems tight it may be loosened, or pads of wool be placed beneath it where there is undue pressure. In about two days the man should be able to sit up out of bed, and a day or two after this he will be able to walk about. He should be encouraged to grasp the end of the splint with his fingers, as this steadies the splint and helps to overcome stiffness. The position of the arm with the patient lying in bed, sitting, and standing is shown in Figs. 2, 3, 4. Dressings are easily done without disturbing the fracture by removing the Gooch's splinting (Fig. 6), the patient sitting up either in bed or in a chair.

FIG. 3.—The triangle splint applied, the patient sitting down.

FIG. 5.—Showing the straight triangle splint and its method of fixation. The Gooch's splinting and dressings have been removed.

Some men have much more confidence than others and learn to get about much more quickly, and it is always a good thing for men who are to be put up on the triangle splint to see others already fitted with it getting about and even doing light ward duty. A large proportion of cases of fracture of the humerus from this hospital have in this way been evacuated as sitting cases, while those on triangle splints who have been evacuated as cot cases are not "helpless" unless they have other injuries, but could walk in case of any emergency. Transport is thus simplified. The splint requires very little readjustment, provided that due care has been taken to construct it to measure so that it fits well, but, if called for, it is easily carried out. *X*-ray examinations have shown that the fractures are kept in good position—indeed, there is often an improvement upon the position when the limb was in a Thomas's splint.

A useful modification of this splint, the "straight" triangle, is shown in Figs. 5 and 6. This is similar to the splint already described, but the elbow is not flexed, so that the outer side of the triangle extends from the axilla to the heads of the metacarpals. The method of fixation is seen from the figures to be similar to that already described. This splint has been used for wounds of the elbow-joint, for excisions of the elbow-joint where other wounds have interfered with the extension bands for the Thomas's splint, and for a few fractures of the upper part of the shaft of the humerus, where it was thought that the weight of the arm would provide some extension when the splint was in a vertical position. The patient can sit up in bed or on a chair, and can also walk about, but not so freely as when the forearm is flexed. The dressing is done with the patient sitting up (Fig. 6), when the weight of the limb will prevent any movement of the fracture. Fig. 5 shows a case of fracture of the upper third of the shaft of the humerus when the patient was able to walk about, two days after the splint was applied. In all cases in which it has been used this splint has proved remarkably comfortable.

FIG. 4.—Showing the triangle splint and its method of application, the patient standing up.

The advantages of the triangle splint are: (1) It is simple and easy of construction. Nothing beyond ordinary splint boarding is required, and it can be made in a few minutes by any hospital carpenter. The accessories—the ring and perineal band—can easily be made by the sisters. (2) The elbow is flexed to a right angle, and while the elbow and shoulder are fixed, free movements of the fingers and wrist are possible, and also slight movements of pronation and supination. (3) The patient can get out of bed; he can sit down, walk about, and get out into the fresh air and sun, with benefit to the wound and his general condition. (4) Transport is easy. Most men will travel as sitting cases, and those evacuated as "cot" cases will not be "helpless" unless there is also some other injury.

FIG. 6.—The straight triangle splint applied, the patient standing up.

One disadvantage to this splint is that there must be no wound on the inner aspect of the arm, the axilla, or the side of the chest, which are in contact with some part of it. If the possibility of putting the arm up on a triangle splint later on be borne in mind when making incisions for drainage, or for the removal of bone or metal fragments, the number of cases in which it cannot be employed will

be diminished. Attention, too, may be directed to getting wounds in these situations into a healthy condition and closing them. Interruptions might be made to allow for dressings, but hitherto this has not been tried, as such changes would probably be at the expense of comfort and simplicity. Major M. Sinclair, R.A.M.C., has suggested that in the straight triangle splint the outer side might be made of two straight metal bars like those of the Thomas's arm splint and that the arm might be fixed to it in a similar manner—a plan which seems well worth trying. Another disadvantage is that there is no active extension. It would be possible to arrange for an apparatus for extension beyond the outer side of the triangle, but there is no doubt that in some cases of fracture of the humerus extension can be overdone, and when it is necessary it is best applied with the Thomas's splint. The axilla, too, is not a satisfactory place for counter-extension. It may again be pointed out that severe and very septic cases, and those where secondary haemorrhage is likely, are best treated on a Thomas's splint, at any rate until the local condition has greatly improved.

I have to thank Captain M. H. Watney, R.A.M.C., for many *x*-ray plates and for the photographs from which the illustrations are taken.

THE POSITION OF THE OPERATION FOR THE EXCISION OF A CARTILAGE IN MILITARY SURGERY.

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THE average stay in hospital following an operation of the excision of a cartilage is in the case of civilians three weeks; in four weeks the patient is again back at work. It has become increasingly evident that the prognosis in the case of soldiers is not nearly so good. At the request of General Sir Robert Jones the statistics of cartilage operations performed at Alder Hey Military Orthopaedic Hospital were investigated.

A. *Conditions Present.*

The total number of cases admitted with the diagnosis of displaced cartilage to the end of 1917 was 283. The total number of cases operated upon for the excision of a cartilage or a synovial fringe was 112. In many of the remaining 171 cases nothing abnormal could be found, while in others only slight wasting of the quadriceps was observed. In 20 cases definite osteo-arthritis was present, in 7 tuberculous disease, in 4 villous synovitis, and in one sarcoma of the lower end of the femur.

B. *Comparison of Cases Admitted during the Corresponding Four Months of 1915, 1916, 1917.*

	Admissions.	Operations.
1915	28	17
1916	50	16
1917	52	13

C. *Results of Operations.*

Of the 112 cases operated upon 8 were discharged as fit for general service immediately; 99 were discharged to a command depôt as fit for general service within four months; 5 were discharged as fit for home service only.

D. *Average Stay in Hospital.*

The average stay in hospital before operation was 22 days, and varied from 3 to 50 days. The average stay in hospital after operation was 85 days, and varied from 21 to 135 days.

E. *Final Category of Patients Discharged after Operation.*

In order that the final category of officers and men discharged as fit for general service in four months should be known, a request was sent to Records for their posting after discharge with the present category. Replies were received in 36 cases.

	Number.	Percentage.
Class A (General Service)	19	53
Class B (Garrison Duty)	8	22
Class C (Home Service)	5	15
Class P (Reserve)	2	5
Unfit for further military service ...	2	5

Five of the Class A men had been killed in action.

F. *Final Category of Patients not Operated on.*

For comparison a similar proceeding was carried out in cases in which nothing abnormal was found with the knee, and the soldier was discharged to a command depôt as fit for general service in four months. Replies were received in 27 cases.

	Number.	Percentage.
Class A	9	33
Class B...	4	15
Class C	5	19
Class P	6	22
Unfit for further military service ...	3	11

Symptoms of a Displaced Cartilage.

These are briefly as follows:

Stage of Dislocation.—Sudden locking of the joint with marked pain, followed by rapid effusion and tenderness over the cartilage. With proper treatment the effusion disappears and full movement is regained. In some cases complete recovery may follow, but there is a marked tendency for the dislocation to recur. Each recurrence is followed by less pain and a less marked tendency for effusion to arise.

Intervening Stage.—The patient may complain of weakness and instability of the knee, especially marked when walking on rough ground. There is usually tenderness over the edge of the cartilage and wasting of the quadriceps. At the time of dislocation physical signs are well marked. The intervening stage is characterized by the complete absence of such signs in many cases, and is the stage in which the soldier usually reaches the orthopaedic hospital.

The Effects of a Displaced Cartilage on a Soldier.

When a cartilage has once been displaced, a soldier runs the greatest risk of a recurrence in the face of the enemy, since the dislocation may recur during a charge, raid or patrol. Such an accident may be disastrous to him and to his comrades. Apart from this danger constant recurrence as a result of marching over the uneven ground at the front is only to be expected. This may lead to chronic synovitis and even arthritis. Therefore no soldier who has once suffered from a displaced cartilage should be returned to the firing line until this has been removed. There is not the same objection to returning such men to the A.S.C. or the Mechanical Transport.

Internal Derangement of the Knee a Favourite Complaint of Malingerers.

With the prolongation of the war there is a tendency for the soldier in all armies to become war weary and for malingering to develop, especially among conscripts. Simulated internal derangements of the knee are by no means uncommon, and such cases, especially in the intervening stages, are often exceedingly difficult to diagnose. The statistics given under B indicate that there is a tendency for malingering in this respect to increase.

It must not be inferred that malingering in the British army is common. To Alder Hey practically all doubtful cases from the Western Command were sent. These numbered 283 in three years, and in only 51 cases was nothing abnormal found, a small number for such a period

Pre-operative Treatment.

In certain cases diagnosis was evident, as, for instance, when locking was still present. In the intervening stages no signs apart from tenderness over the cartilage and wasting of the quadriceps were present, and the diagnosis was often difficult. Wasting of the quadriceps occurs in all cases of internal derangement; it may also occur in a normal knee which is kept stiff and not fully used. Consequently, while the absence of wasting indicates that there is nothing abnormal in the joint, its presence, while supporting, does not prove that some derangement exists.

In all doubtful cases the soldier was put through a full gymnastic course each day, following which an examination for limited movement, effusion, etc., was made. Under no consideration was an operation performed until something more than the soldier's statement was present to

warrant the diagnosis. It was the necessity for finding definite physical signs which accounts for the prolonged average stay in hospital before operation (D).

Operative Treatment.

The operative technique and post-operative treatment introduced by General Sir Robert Jones was invariably carried out.

Post-operative Treatment.

Complete recovery following the operation was in many cases delayed. When the soldier was anxious to rejoin his unit the average stay in hospital was one month. In other cases the soldier was anxious to prolong his stay in hospital and complained of weakness and instability of the knee, though full movement was present. In such cases wasting of the quadriceps was the only physical sign. A soldier with such symptoms and the added wasting of the quadriceps might obtain sympathy when inspected by another medical officer. Consequently no soldier was discharged to a command dépôt until the quadriceps had regained its full volume and strength under massage, gymnastic exercises, and electrical treatment. Without the co operation of the patient this was often delayed, and accounts for the prolonged post-operative stay in hospital (D).

When, in spite of all treatment, wasting persisted, the patient was discharged to sedentary work; this accounts for the five cases discharged as fit for home service only (C).

Further History of the Patient.

The patient on joining the command dépôt is often anxious to avoid long route marches, and now complains of pain in the scar, weakness and instability of the knee, and walks with a limp. Wasting of the quadriceps again arises. With an unsympathetic medical officer the soldier realizes the game is up, and is soon passed out Class A. Should the medical officer show any sympathy the symptoms persist, and the soldier is eventually passed out in a low category. This is especially likely to happen in the case of medical officers who believe that the excision of a cartilage prevents a soldier from again becoming fit for active service. Such judgement is not in accordance with facts, and simply encourages malingering.

That too much attention is paid to subjective symptoms and too little to physical signs is especially shown in the case of men discharged in whom nothing abnormal was present in the knee; only 33 per cent. of such cases were passed fit for active service (F). In both E and F all the soldiers, after a short stay at the command dépôt, should have been discharged as fit for general service.

The Position of the Operation in Military Surgery.

From a purely military aspect an operation of choice is only justifiable if it raises the soldier's category, or relieves him of a condition the persistence of which would be harmful. It is dangerous for a soldier, liable to recurrent dislocation, to be placed in the firing line (Class A). The highest category in which he should be put is B (garrison duty), and then only if recurrence is infrequent, otherwise arthritis may arise.

Internal derangement of the knee in the intervening stage is easily simulated. In a doubtful case the conscientious medical officer will often give the patient the benefit of the doubt, since he realizes the risk of sending the genuine case back into the firing line, and knows that subjective symptoms without definite physical signs are not uncommon. Were all such cases to be returned to the firing line a grave injustice would be done to the genuine case. On the other hand were all the cases to be placed in Class B malingering would certainly increase.

Careful investigation of all doubtful cases is essential, and owing to the increased facilities for diagnosis most of these cases find their way to the home hospitals. It is the difficulty of proving that anything wrong is present in the knee that accounts for the prolonged pre-operative stay in hospital.

Full movement of the knee after an operation is usually regained in three weeks, and graduated exercises should then be started. There would be no necessity for the cases to stay in hospital were it possible for them to be sent to a special command dépôt to be under the supervision of a medical officer who understands his work, and the method of developing the quadriceps by graduated and resistance exercises. The post-operative stay in hospital would thus be considerably reduced, and a much larger percentage of the patients would rejoin their units in a much shorter period of time.

That only 53 per cent. of the men discharged are finally passed as fit for general service is due to lack of judgement and perhaps energy on the part of the medical officers at the command or regimental dépôts. During my term of office as registrar at Alder Hey on no occasion did any communication about a knee operation arrive. That the category of 47 per cent. should have been lowered without any reference to the nature of the operation indicates that far too much attention is paid to subjective symptoms. With proper supervision 95 per cent. of the cases operated upon should have been placed in Class A.

A CLEAN MILK SUPPLY.

BY

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THE Sanitary Committee of the Manchester City Council has had under consideration for some years the improvement of the milk supply. The report which it recently published on the methods of testing cow's milk in relation to standards of cleanliness was prepared by me at their request to supply them with information as to:

1. The best method of determining the degree of contamination of milk for administrative purposes.
2. The actual state of the Manchester milk supply.

I may incidentally refer to the fact that the provision of a clean milk supply has been under consideration in Manchester since 1896, and that the question of controlling the distribution on lines resembling those recommended lately by the Minister of Food had received attention.

The methods of testing cow's milk are dealt with in the first section of the report, and in the second part the present state of the milk supply is shown to be very unsatisfactory. It was, for instance, found that the milk supplied to several hospitals and milk dépôts was highly contaminated, as can be seen by the following summary:

The number of bacteria growing on agar at 37° C. was—
Over 1,000,000 per c cm. in 39 per cent. of the samples.
100,000 to 1,000,000 per c.cm. in 43 per cent. of the samples.

As regards the souring time at 30° C. it was found to be—
Less than ten hours in 26 per cent. of the samples.
Ten to fifteen hours in 55 per cent. of the samples.
Fifteen to twenty hours in 13 per cent. of the samples.

It was also found that the proportion of tuberculous samples was three times as great as before the beginning of the war.

As in my opinion this deplorable state was only in small part due to errors in the methods of distribution I felt it my duty to give additional information regarding the ways in which the milk becomes contaminated, and the methods of collection and distribution which should be adopted to protect milk against pollution.

Detailed evidence is given in the report showing that the most serious sources of pollution are to be found at the farm, where dirt from the cow, the shippon, and the milkers, is allowed access to the milk at the time of milking, and where dairy vessels of various kinds may, even when apparently clean, harbour numerous bacteria. It is also demonstrated that the strainer on which the farmer depends for the removal of gross dirt is an important source of contamination, and that even the cooler is not above reproach.

Of the experiments mentioned in the report the following is instructive:

Three cows were milked into sterilized covered vessels, and their milk was mixed in a sterilized churn. Part of this milk was then strained through a common strainer in use at the time, and received in an ordinary, apparently clean, but not sterilized churn. The unstrained milk remaining in the sterilized churn, and the strained milk transferred to the ordinary churn was carried to town by road, and examined two and a half hours after milking.

The unstrained milk was found to contain 1,500 bacteria per c.cm.
The strained milk was found to contain 43,200 bacteria per c.cm.

The milk in the two churns was then kept for 23 hours at 20° C., when it was found that:

The unstrained milk contained 800 bacteria per c.cm.
The strained milk contained 236,000,000 bacteria per c.cm.
The unstrained milk was sweet at the end of 90 hours.
The strained milk was sour in 14 hours.

It will be noticed that both samples of milk had remained in the churns in which they were placed at the farm. It is clear from this, and from many other experiments and observations recorded in the report, that milk collected in sterilized vessels and unstrained, is very much less contaminated, and has a much longer life of usefulness than milk collected and treated in the usual way. The postponement of souring has obvious economical advantages. Milk which remains sweet for two or three days can be used to meet the fluctuating demand for fresh milk, and the surplus may still be utilized in various ways.

I have come to the conclusion that to obtain a clean milk supply certain conditions have to be observed which may be enumerated as follows:

Clean shippons, cows, and farm hands.
Sterilized covered milk pails.
No handling of the milk at the farm beyond transfer from sterilized pail to sterilized churn.
Rapid transit from farm to town in clean cool vans.
Distribution of milk to consumer in sterilized vessels with as little handling as possible.

To meet these requirements the small farmer will have to abandon some of his cherished practices and learn what sterilization means. A full account of simple and economical methods of sterilization is given in the report. Further, the railway companies will have to provide clean and cool means of transport. Finally, the distribution of milk to the consumer will have to be undertaken by distributing centres under strict control.

When the small farmer has been shown what he has to do, and how he can do it economically, it will be reasonable to insist upon his doing it. The introduction of grading, and, if necessary, of penalties, will then be advantageous.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CAMPHOR IN ACUTE INFLUENZAL BRONCHITIS AND BRONCHOPNEUMONIA.

DURING the recent outbreak of influenza at Felixstowe I treated 250 cases with camphor, with a mortality of one—a man who died after three days' illness from bronchopneumonia.

The incidence of bronchopneumonia in the 250 cases was 26, or 10 per cent.; in another series of 200 cases during the same outbreak, and untreated with camphor, the incidence was 8 per cent., but the number of deaths was 4, a mortality of 2 per cent. The outbreak was very severe, and the cases treated ranged in severity from very acute to mild cases. The temperatures varied from 105.5° to 100° F.

The treatment adopted was the administration of pills containing four grains of camphor made up with soap, in mild cases three times daily and in the very acute cases every three hours. The treatment was continued until the temperature dropped and the signs of bronchitis or bronchopneumonia cleared up. A typical case may be of interest.

A boy, aged 10, was suddenly taken ill on September 6th with acute pains in the back and head. When seen the temperature was 105.6° F., pulse 120. There was slight cyanosis, and marked and widespread signs of bronchitis with patches of bronchopneumonia were found over both lungs. On September 7th the boy became unconscious. The camphor pills were begun on September 8th, after the unconsciousness had lasted thirty-six hours. Pulse 130, temperature 104.8° F. Within twenty-four hours the boy recovered consciousness. The signs in the lungs slowly cleared up, and the chest became normal on September 12th.

There was no doubt in the minds of those who watched the boy that his recovery was entirely due to the camphor. The only other treatment was a diaphoretic mixture, which was stopped on September 9th.

The effect of camphor in large doses is very marked, and though the number of cases treated is too small to allow me to describe it as a specific, there can be no doubt, from the difference in the mortality in the two series of cases treated during the same outbreak with and without camphor, that the curative action of camphor is remarkable. Certainly its effect in clearing up the lungs and lowering the temperature far surpasses that of any other drug that has been tried.

Felixstowe. P. L. GIUSEPPI, M.D.Lond., F.R.C.S.Eng.

THE SIGNIFICANCE OF FATS IN THE DIET.

THE following figures from the tropics, 1° 17′ north of the equator, may be of interest. They were obtained from observations during the past two years on the diet nutrition and excretion of the Asiatic races in Singapore.

Subject.	Protein.	Fat.	Carbohydrate.	Total Calories.	Fat Calories per Cent. of Total Calories.
	Grm.	Grm.	Grm.		
Chinese medical student ..	60	43	227	1,577	25.4
Tamil medical student	58	32	277	1,672	17.8
Malay medical student	57	31	239	1,502	19.2
Brahmin medical student ...	83	68	371	2,495	25.4
Tamil gardeners	76	19	468	2,407	7.3
Chinese estate coolies	86	17	611	3,015	5.2
Native prisoners (Class I) ..	84	50	432	2 580	18.0
Native prisoners (Class II) ...	84	18	541	2,730	6.1
Native prisoners (penal diet) ...	62	15	522	2,515	4 8

The diets of the medical students and Tamil gardeners are those of choice; the other diets are fixed.

Naked-eye observation of the food of the Singapore native labourer is sufficient to show that the fat per cent. is very low.

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THE TREATMENT OF BILHARZIOSIS BY INTRAVENOUS INJECTIONS OF TARTAR EMETIC.

OUR knowledge of the situations occupied by the parasites in patients suffering from bilharziosis has hitherto acted somewhat as a deterrent in attempting a radical cure of the disease by the introduction of poisonous substances into the general circulation. In consequence treatment has been largely confined to measures tending to mitigate the severity of the symptoms. It is interesting, therefore, to see in the JOURNAL of December 14th an article by Dr. J. B. Christopherson on the efficacy of intravenous injections of tartar emetic in this disease.

In 1916, in Cairo, at the Australian Dermatological Hospital, a case was successfully treated on these lines; the notes suggest a specific action of the drug.

M. I., a native washerman, working at the hospital, complained of increasing frequency of micturition, pain above the pubes, scalding during passage of the urine, and haematuria. He first noticed haemorrhage at the end of micturition two years previously, but experiencing no trouble beyond this, he had not sought relief for some time, but finally urinary discomfort induced him to be treated at the out-patient department of a civil hospital, where he attended some months without appreciable relief. His urine contained numerous flocculi, which on examination under the microscope were found to consist of red blood corpuscles, pus and epithelial cells, and characteristic spined ova entangled in mucus.

In view of the disability caused by his symptoms, we decided to try the intravenous administration of tartar emetic; 10 injections of gr. j in 100 c.cm. of sterile normal saline were made into one of the veins of the antecubital space at intervals of a week. They were given towards evening, and the patient instructed to rest on returning home. The solution was introduced slowly, care being taken that none escaped into connective tissue surrounding the vein. No fits of coughing or faintness, such as often occur during the transfusion of this drug, were noted in this case. Fever and malaise followed all injections after a few hours except the first two, but apart from two mornings following the administration of the remedy, the patient went about his ordinary duties. Treatment was begun on March 7th, and the urine was examined microscopically at weekly intervals. A fortnight later marked relief of symptoms was experienced, and the number of blood cells and ova in the urine was appreciably decreased. After four injections no blood was passed, and after six the ova had disappeared from the urine. At the end of ten injections the urine was clear

except for a few pus cells, and no symptoms of the disease was experienced by the patient. The patient was under observation for some months subsequent to this, and during this time symptoms and signs were completely absent.

It is unjustifiable to draw conclusions from a single case, especially as it is well known that remission of symptoms may occur; the permanency of the cure in this particular instance is not proved, but the rapidity of relief, and the fact that distressing symptoms had been present continuously for two years previously, are nevertheless very striking; in the light of other evidence being brought forward, the facts tend to support the view of the favourable action of tartar emetic in bilharziosis.

Salisbury. C. J. WILEY, Major A.A.M.C.

Reports of Societies.

ENTERIC FEVER IN FLANDERS IN 1914–15.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, held on December 13th, Lieut.-Colonel E. W. GOODALL delivered his presidential address on enteric fever in Flanders in 1914–15. He thought that there could hardly be any doubt that there were, by the end of November, 1914, in the Flanders area, a considerable number of cases of enteric fever in the Belgian, French and German armies and probably amongst Belgian civilians, and a comparatively small number in the British army. The exciting cause of the epidemic was the flooded state of the country, with the consequent polluting of the soil, the wells, the canals and the trenches by the excreta of infected soldiers, though not solely German, and of Belgian refugees. The outbreak began to assume epidemic proportions soon after the army settled down to trench warfare in November, 1914, and by the end of the year the epidemic was assuming a very serious aspect.

An account was then given of the Friends' Ambulance Unit, which had its head quarters and hospital in a large building just outside Ypres, and for about three months carried out nearly all the medical work amongst the inhabitants who had remained in the district, and this without any outside assistance.

The British army enlisted the services of this unit to help in their campaign against the epidemic, which spread rapidly towards the end of December, 1914. The number of cases was probably considerable, but information was limited. There must have been about 4,000 cases under treatment daily during January and February, 1915. The British army furnished comparatively few cases, only 827 up to May 22nd, 1915.

The disease differed in several points from the types the speaker had seen in England during the previous twenty-five years:

1. The fever ran a very irregular course, the oscillations being frequent and extreme, so that the curve at the height of the disease resembled in many cases that of pyaemia or phthisis. Temperatures of 104° to 105° F. were by no means uncommon.

2. A considerable number of cases exhibited pronounced nervous symptoms, coma or semi-coma, or restlessness and delirium. These symptoms did not pass off as the general condition improved and the temperature fell. The comatose cases did worse than the others; in such cases death occurred without recovery of consciousness, though the temperature fell. He attributed the mental state to the harassing conditions under which the patients had been living before they became ill.

3. Clinical evidence showed that the intestinal lesions were by no means extensive or severe. Death was due either to cardiac failure, probably caused by myocarditis, or to hypostatic pneumonia. Cases which he saw later among French soldiers were less severe and conformed to no type he had been used to seeing in England. This he accounted for by the fact that the patients were well fed, many had been inoculated, and a large proportion were cases of paratyphoid. As soon as laboratory methods of diagnosis were employed it was found that a considerable number of cases were paratyphoid. In 43 cases at the Queen Alexandra Hospital, Dunkirk, in which the blood cultures were positive, 16 were typhoid, 22 were paratyphoid A, 3 were paratyphoid B, and 2 were paratyphoid, but whether A or B was not ascertained. If to these cases were added those in which the results of the blood serum tests were taken as clinching the diagnosis, then there were 43 cases of typhoid, 32 of paratyphoid A, 12 of paratyphoid B, and 2 of paratyphoid ? A or B, so that 51.6 per cent. were paratyphoid. This proportion was very different from that found amongst the Belgian civilians admitted to Hôpital Elisabeth at Poperinghe. Out of 308 cases in which the clinical diagnosis was supplemented by positive blood cultures or serum test, 245 were typhoid, 62 were paratyphoid B, and only one was paratyphoid A—that is, 30.4 per cent. were paratyphoid. Several reasons were given which might account for this difference, one of which was the fact that of these cases in the Queen Alexandra Hospital 29.4 per cent. had not been inoculated, whilst of 454 cases admitted to Hôpital Elisabeth 92 per cent. had not been inoculated. The presence in any particular area of more or fewer cases of the three varieties must also be taken into account. It was generally believed that paratyphoid A was introduced by carriers among the troops, as it was very rare in Europe before the war, and the figures given indicated that the Belgian soldiers were not exposed to the infection of paratyphoid A, but that the French soldiers were.

Of the 435 cases admitted during the febrile period to the Poperinghe hospital, 93, or 21.3 per cent., died, whilst of 102 cases admitted to the hospital at Dunkirk, 10, or 9.8 per cent., died. The Poperinghe cases were of all ages and both sexes, but with a majority of females; the Dunkirk cases were all males, mostly from 20 to 40 years of age. The fatality rates for the two hospitals were also different. For the Hôpital Elisabeth they were as follows: Typhoid 9.7 per cent., paratyphoid 19.2 per cent. For the Queen Alexandra Hospital: Typhoid 20.9 per cent., paratyphoid 2.1 per cent.

The measures employed against this epidemic were (1) those for providing for the sick and (2) those for protecting the healthy.

1. The medical departments of the several armies dealt with the soldiers, and the Friends' Ambulance Unit chiefly with the civilians. Hospital accommodation was provided for those who had to be so treated.

2. As regards the measures adopted for preventing the spread of the epidemic by protecting the healthy, the authorities acted quickly and energetically. They were such as are usually taken in epidemics of this nature, namely, (*a*) the removal and isolation of the sick in hospitals; (*b*) the cleansing and disinfection of premises; (*c*) the provision for a safe water supply. Inoculation of the civil inhabitants of the infected areas with antityphoid vaccine was made obligatory by the Belgian authorities, those who refused inoculation being expelled from the zone occupied by the allied armies and treated as refugees, and enteric fever was made notifiable, omission to notify being punishable by fine or imprisonment.

Statistics were then given of the numbers among the Belgian civilian population who were inoculated by the Friends' Ambulance Unit. Up to the end of May, 1916, 26,700 inoculations were carried out, a large majority of the cases receiving two inoculations.

By the middle of March the epidemic was on the wane as far as the French army was concerned, and by the beginning of the summer it was at an end, not only in the armies, but amongst the civilians. Colonel Goodall attached more importance to the effect produced by the usual sanitary measures than to the inoculations, because the inoculations at that time were against *B. typhosus*, and not against *B. paratyphosus* A and B. Now that the enemy had been driven from this part of the country, the civilian inhabitants would be returning in large numbers, and every effort should be made to prevent a fresh outbreak.

INFLUENZA IN IRELAND.

AT a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on November 15th, the President, Dr. G. PEACOCKE, delivered his inaugural address on influenza, and Captain SPEARES read a paper on the same subject. Dr. J. H. POLLOCK stated that at the Richmond Hospital they had worked upon sputum, nasal discharge, empyema fluid, lung tissue, and heart's blood obtained *post mortem*. Their conclusions might be summarized thus: (1) From none of the above materials could they

recover influenza bacilli. (2) In all cases either pneumococci or streptococci, or both, were recoverable. (3) In two cases organisms were grown from heart's blood—in one pneumococci, in another streptococci. (4) As regards the type of pneumonia present, one fatal case showed *post-mortem* typical croupous pneumonia upon the right side, with characteristic bronchopneumonia upon the left; another showed a similar combination, together with acute tubercle at upper poles. The main type of pneumonia found was bronchopneumonia, frequently coalescent. (5) One case showed bilateral empyema, but no pneumonia.

Professor E. J. McWEENEY said that of the specimens of sputum which he had examined only a small minority contained the Pfeiffer bacillus. In his experience the prevailing organisms were pneumococci, strepto-pneumococci, and *Micrococcus catarrhalis;* in a few cases staphylococci were predominant. He had not been able to arrive at any conclusion as to the micro-organism responsible for the primary influenza, but considered the pneumonia to be due to secondary infection with the above-mentioned organisms. Vaccines made from pure influenza strains, and also from the complicating organisms with and without Pfeiffer's bacillus had gone forth from his laboratory in considerable quantities, but so far he had not been able to come to any well-grounded conclusions as to their protective or curative value.

Dr. MOORHEAD, from the clinical point of view, called attention (1) to the occurrence of severe meningeal symptoms, particularly in children; he had done a spinal puncture on all such cases, and found the fluid under great tension, but in each case the fluid proved sterile; considerable improvement followed the puncture in almost every instance; (2) the frequency and severity of post-influenzal delirium and mania; and (3) the frequency of the development of a post-influenzal empyema.

Dr. CROFTON agreed with Captain Speares that the epidemic was due to the influenza bacillus. The facts that it appeared simultaneously with the epidemic all over the world, that the epidemic appeared to be largely controlled by inoculation with pure influenza vaccine, and that the illness was often cut short by it, were very significant. He thought that the failure to isolate the microbe was generally due to unsuitable culture media, and described a medium—fresh human blood-agar—on which the microbe grew profuse colonies, grey in appearance, often attaining a diameter of two millimetres or more in forty-eight hours. The agar must be made strictly according to Eyre's directions. He did not agree that the true influenza bacillus ever became Gram-positive. He thought the microbes producing the complications — namely, staphylococci, strepto-pneumococci, and Gram-negative cocci—might be a primary infection along with the influenza bacillus, but that more frequently the patient's own catarrh microbes became pathogenic when his resistance was lowered by the influenza bacillus.

Dr. DAY remarked that he found pneumonic vaccine, injected early, before pneumonic symptoms were pronounced, of decided value, and also a streptococcus vaccine prepared by Dr. Pollock of much benefit, especially in cases where the expectoration was thin, copious, and purulent.

Dr. O'KELLY said he had had very encouraging reports on the value of a vaccine made with pneumococci and *Micrococcus catarrhalis*, not merely in treatment but also in prophylaxis, although no influenza bacilli were in it. The fact that such a vaccine, as well as a pure influenza vaccine, seemed to protect against the disease, suggested possibly (as Nicolle stated) that a filter-passer was at fault, which might perhaps be present in the various vaccines used. He had so far not isolated Pfeiffer's bacillus in any case. Two blood cultures, one sterile the other yielding pneumococci in pure cultivation, had been tested for an ultra-microscopic virus, with a negative result.

Dr. NESBITT said that in judging the results of protective inoculation it was necessary to remember the curious variations in susceptibility. All his uncomplicated cases had recovered, and the twenty deaths to date in the Richmond Hospital were due to pulmonary complications, the mortality for cases with definite lung signs in this series being about 45 per cent. He also had been much impressed with the liability to overlook empyema. The evidence that the outbreak was due to Pfeiffer's bacillus seemed very incomplete, and it was remarkable how frequently expert bacteriologists had failed to recover it from the cases.

Dr. F. KENNEDY CAHILL questioned as to how far "suggestion" acted in cases of preventive inoculation. In other epidemics the profoundness of the prostration was out of all proportion to the gravity of the disease; in this the severity of the disease was out of all proportion to the subsequent prostration, which was slight.

Dr. BOXWELL said that from the beginning he had regarded the more severe types as cases of profound septic intoxication. The typhus-like stupor, the haemorrhagic tendency of the complications, the severe albuminuria and haematuria, and the post-febrile delirium, all pointed in that direction, and called for a serum, were such available, and not a vaccine. The evolution of the illness was too rapid to allow of satisfactory vaccine treatment, which took time. In the majority of cases patients were either obviously getting over it, or were far too ill to call for a second dose. As regards the prophylactic use of the vaccine, he thought we were on surer ground. He had no doubt that the influenza bacillus was the exciting cause of the epidemic, as he had seen an organism, resembling *Bacillus influenzae*, extremely difficult to grow, in nearly all the sputa examined. But was the middle of a raging epidemic the time to advocate wholesale vaccination, even supposing we had any real evidence that it would be effective? It was impossible to say who were already infected and who were free. In those already infected, vaccination was quite likely to precipitate an attack which they might otherwise have repelled. And there was no reliable evidence to show that the attack so precipitated was in any way mitigated by the preceding vaccination. The time for vaccination was in the intervals of recurring epidemics, due care being taken to avoid possible sources of infection after the inoculation. Doses of reasonable size could then be used, at any rate without fear of doing harm. But as it was impossible to foretell when the disease was going to flare up again in epidemic form, and the immunity conferred was in most cases short-lived, the value of prophylaxis in influenza was largely discounted.

Reviews.

AN EAST-END PIONEER AND HIS WIFE.

UNIVERSITY and college "settlements" in the poorer parts of East and South London, whereby the young men and women of the districts are brought into touch with others who have had higher educational opportunities, are now well recognized. The history of their first inception, and of the steps that led to the foundation of Toynbee Hall and other kindred establishments in London and some other large towns, is not so well known. In like manner the Children's Country Holiday Fund has become a familiar institution, but the labours of those who brought it into being are apt to be forgotten in the enjoyment of its present success. These, and many other organized schemes for the betterment of the lives of the poor, have taken practical shape since the year 1873, when the Rev. S. A. Barnett and his newly married wife decided to exchange their comparatively easy-going work at St. Mary's, Bryanston Square, for the difficult and often disheartening labour in the overcrowded and squalid surroundings of St. Jude's, Whitechapel.

The story of their work in the East-end, and of their unceasing care for the well-being of the poor, has recently been related by Mrs. BARNETT in two handsome volumes,[1] which together constitute a history of the rise and progress to success of some of the most important social movements of our time, the full results of which have yet to be experienced.

Introduced by a short letter from the Archbishop of York, himself one of the first of the enthusiastic young men who recognized the importance of the Barnetts' work in the East-end, their life is fitly described as an example of whole-hearted service for God and man. By no means free from the minor foibles and failings of ordinary life, Canon Barnett, as he afterwards became, was essentially lovable, and those who loved him were devoted to him.

In their early struggles with ignorance, immorality, dirt, and dishonesty, among the underfed and overcrowded men,

[1] *Canon Barnett: His Life, Work, and Friends.* By his Wife, H. O. Barnett, C.B.E. Two vols. London: John Murray. 1918. (Demy 8vo, pp. 392 and 415; 39 illustrations. 28s. net.)

women, and children in Whitechapel, the husband and wife worked together with a common purpose and their very failures appear to have stimulated them to greater united effort. They threw themselves especially into the social side of their work and succeeded in attracting not only the goodwill of those for whom they laboured, but at the same time the interest and co-operation of young and enthusiastic helpers, many of them fresh from university life, together with many older friends interested in educational progress. From this association sprang the idea of local residence among the poor, and this led to the foundation of Toynbee Hall, of which Canon Barnett was for many years the warden.

To what a remarkable degree their efforts met with success, in spite of drawbacks and disappointments, will be gathered from Mrs. Barnett's book. It reveals personal characteristics with a detail which is almost Pepysian at times, but, in spite of its length, few readers would wish to have such a record shortened. The numerous letters, many of them to and from persons still living, add greatly to the fuller appreciation of the writer's outlook on life and its possibilities.

Very early in his East-end career, Canon Barnett became impressed with the evils of indiscriminate alms-giving. The better organization of charity by the establishment of the well-known society was largely due to his initiative. In 1878 he first started the plan of sending children into the country for a few weeks in the summer, and in 1884, when the Children's Country Holiday Fund was well established, he became its chairman and so continued for many years. Greatly influenced at the outset of his ministry by the friendship and example of Miss Octavia Hill, who had already shown that the better housing of the poor could be carried out on a commercial basis, he never ceased throughout his many years of active work to advocate improvement in housing conditions as an essential to the permanent improvement of the labouring classes. The introduction of cheap means of transport led him to support the planning of garden suburbs instead of industrial dwellings. The remarkable success of the Hampstead Garden Suburb is a direct outcome of his views, but the practical working out of that scheme has been effected by Mrs. Barnett herself. Her persistent energy and enthusiasm successfully enlisted the necessary financial and professional aid to overcome the many initial difficulties.

Their hard and exhausting work in the East-end was relieved at intervals by holidays spent in foreign travel, and the mental refreshment thus gained led to the desire that others, less able to afford luxuries, should be given opportunities to visit other countries. A Travellers' Club was started at Toynbee Hall, and short tours were organized at moderate cost for the benefit of some of their working class friends and students, extending even as far as to Italy.

Throughout their forty years of married life, Canon and Mrs. Barnett enjoyed the society and friendship of leaders in many walks of life—religious, educational, scientific, social, and political. At their vicarage in Whitechapel they entertained a circle of friends almost as large as in their later home under the shadow of Westminster Abbey, and thus a vast number of projects for the amelioration of the lives of the poor were passed in review by some of the most earnest minds of the time.

Refusing offers of higher preferment, Mr. Barnett accepted the canonry of Westminster Abbey in his later years, and became Sub-Dean shortly before his death in 1913. The record of his life thus set forth by his partner and co-worker is full of interest for every one who can appreciate the devotion of a lifetime to the well-being of the poor. The practical results of such devotion will be felt by many generations yet to come.

SURGERY AT A CASUALTY CLEARING STATION.

THE object of the authors of this book[2] has been to place on record a brief but comprehensive description of the surgical methods evolved and employed in the casualty clearing stations in France. Major-General CUTHBERT WALLACE has had exceptional opportunities for observing and directing this evolution since he has for over three years been a consulting surgeon in the army area, and Captain FRASER, as surgical specialist to one of the most forward of the casualty clearing stations, has equally had special opportunities in the practical application of the methods. The result of their combined work is a practical handbook, which states in small compass the methods which are, except for small details, the generally accepted principles on which surgery in the zone of the armies has been based. Though too late in appearing to be a book of instruction to young surgeons, it will be of value as a reference book and a statement of what has been done. As such it will be of special interest to those surgeons working in England who may not have had opportunities of seeing the work in the field, and may have had difficulty in appreciating the problems which arose there.

After a brief introductory chapter on the evolution of the casualty clearing station, a work in which General Wallace has been particularly concerned, the important questions of shock and of antiseptics are considered. The reader will find a brief account of the theories of the causation of shock, though these change so rapidly that some of the statements are already out of date. On the vexed question of the value of antiseptics much interesting information is given, and the gradual swing of opinion to the realization that radical surgery carried out on aseptic principles is of more importance than any antiseptic is traced. Chapters on the accepted principles of wound treatment generally, and on wounds of the various regions follow. The authors' conclusions are stated briefly and dogmatically, and leave no doubt as to the course which they consider the best to follow. The articles on abdominal wounds, gas gangrene, and transfusion will be of particular interest to readers in this country; they deal with problems which are almost exclusively of front line importance, and much has been accomplished in their study.

The illustrations, made largely from sketches on the spot, add to the value of the book, which will be welcomed by all interested in war surgery.

[2] *Surgery at a Casualty Clearing Station.* By Cuthbert Wallace, C.M.G., F.R.C.S., and John Fraser, M.C., F.R.C.S.E. London: A. and C. Black, Ltd. 1918. (Cr. 8vo, pp. 11+320; 63 figures. 10s. 6d. net.)

NOTES ON BOOKS.

THE Biological Society of Barcelona was founded by Dr. Enric Prat de la Riba, an enthusiastic Catalonian patriot who died in 1917. He also initiated the Institute of Sciences of which it is an offshoot. The president is Dr. August Pi Sañer, and in the list of honorary members we note the distinguished name of Professor Santiago Ramón y Cajal of Madrid. The proceedings of the Society[3] for 1917, the fifth year of its existence, are largely concerned with histological technique. There is an interesting paper on haemorrhagic metropathy (virginal metrorrhagia), illustrated with coloured plates, by Lluís Guilera. P. Nubiola writes on the evolution of the Graafian follicle, and Manuel Dalmau contributes a note on the mechanism of the functional relation between the thyroid and the suprarenal capsules. C. Lopez treats of the action of sodium chloride on the *Bacillus anthracis*. The members of the Barcelona Biological Society may justly be congratulated on the scientific activity of which this substantial volume is a record.

We are glad to find that the high opinion we expressed of Colonel LELEAN'S *Sanitation in War*[4] when it first appeared has been confirmed by practical experience. The book was reprinted very shortly after its first appearance in 1915, and a second edition was called for in 1917. The third edition now published has been slightly enlarged, but the volume is still of very convenient size and will add little to the bulk or weight of kit. It is well illustrated, and the drawings of the improvised apparatus described will make it easily possible to reproduce them in the field. Until the army is wholly demobilized the call for such a book must continue to be considerable; and afterwards it will, we believe, remain a most valuable textbook for medical officers in military employment at home or abroad. Few handier and more practical books could indeed be desired by the civilian practitioner in remote parts of the Empire.

[3] *Treballs de la Societat de Biologia.* Institut d'Estudis Catalans, Barcelona.

[4] *Sanitation in War.* By Lieut.-Colonel P. S. Le'ean, C.B., F.R.C.S. With an introduction by Surgeon-General Sir Alfred Keogh, G.C.B., M.D. Third edition. London: J. and A. Churchill. 1919. (Fcap. 8vo, pp. viii + 363; 68 illustrations. 7s. 6d.)

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

THE FIRST AFTER-WAR CARS.

ONE after another the manufacturers of cars are announcing plans for their post-bellum vehicles. In most cases it is impossible to get a statement as to price. In very few cases is it possible to get any information in regard to delivery. Sundry vehicles are obviously composed of parts made either before or during the war, which it has not been possible to assemble until now. Thus one hears of quite a number of firms that have chassis on the road already. Some of the chassis announced are in size beyond the range required by the majority of medical men, as instance the Crossley 25–30 h.p. machine, which is a four-cylinder, live axle, car with a bore of 102 mm. and a piston travel of 140 mm. with four speeds forward, the final drive being by helical bevel gears. The pistons are of aluminium. Electric engine starter and dynamo are standard equipment, while the under-slung rear springs are now conventional practice. In other words, this is the model which has of late been delivered to the Royal Air Force, but sundry modifications will be embodied in the chassis as supplied to the public.

THE ONE-MODEL AUSTIN PROGRAMME.

The Austin Company comes forward with an entirely fresh nominal 20 h.p. four-cylinder model with a bore of 95 mm. and a piston travel of 127 mm., all the valves being on one side of the monobloc cylinder casting, the head of which is detachable. The chassis of this car weighs 18½ cwt., and the vehicle can be loaded until its total weight is 2½ tons. There are evidences, alike in the design and the production, that sundry new style methods have been exploited—instance the pressed wings and, more notably, the moulding of the body work, whereby the rain-hood falls back quite out of sight. This is the one-model programme on which the firm is engaged. When it is had in mind that the vehicle will be marketed at £400 or less it will be realized that, in comparison with the majority of English manufacturers, the Austin Company will be offering remarkable value for money, notwithstanding the period of motor manufacturing in which the cost of labour as well as of material will be very different from what they were before the war. Unit construction has been adopted for the engine, clutch, and gearbox, the whole being attached by three-point suspension to the straight-sided taper frame.

NOVELTIES BY ARROL-JOHNSTON.

Another entirely fresh after-war car is the Arrol-Johnston "Victory" model. This is to be a nominal 12 h.p. car with a chassis weight of 1,200 lb., the complete vehicle being marketed at a sum which, while it cannot be definitely announced, may be stated as being surprisingly low and possible only by the exploitation of a one-model programme and quantity production. It is a four-cylinder machine with overhead valves. The cylinder bore is 75 mm. and the piston travel 150 mm.; therefore what used to be styled the long stroke school of design has been employed. Inasmuch as the public is not yet used to overhead valves, knowing about them only that, before the war, if an engine so equipped had valve heating it was liable to cause very serious trouble through the valves bending or breaking, it is well to point out in this connexion that all such "teething troubles" in that system of construction have been overcome as far as the industry in general is concerned. The bother with many overhead valves of high efficiency engines is rather in the matter of adjustment. Therefore it should be noted that adjustable tappets are fitted to the overhead Arrol-Johnston valves. The most approved European as well as American practice is embodied in the chassis, as instance the fact that the rear suspension is by cantilever springs, which, however, are anchored to the chassis in the reverse from the ordinary way, so that the rear end of the spring is higher than the forward end. The change-speed lever is on the driver's left hand, and mechanical electric engine starter and car lighting is incorporated in the chassis design. Of course, the experience the firm has had with aircraft engines during the war should prove invaluable to it in the matter of embarking on an overhead valve type of motor for cars. Perhaps an even more notable feature in the Arrol-Johnston after-war programme is to be found in the fact that there is not a grease cup in the whole chassis, for the owner-driver's point of view has been considered. Every joint where oil is furnished is rendered dust-proof without the use of clumsy fittings. The scheme is that, once supplied, the lubricant suffices for several thousand miles' service. Again, all three brakes are interchangeable, and are adjustable externally without making any alteration in the length of the operating rods. Including those for journal and thrust service, only two sizes of ball bearings are employed throughout the car. Further, one size of bolt and nut is employed throughout the chassis. This is a $\frac{5}{16}$ in. Whitworth thread. The ground clearance of the car is ten inches.

THE ENFIELD-ALLDAY CONCENTRIC VALVE SYSTEM.

Originality of design is likewise revealed in the Enfield-Allday post-war models. The larger of these is a nominal 15 h.p. four-seater car with six cylinder line ahead engine, while the smaller is a light car on entirely original lines, having a five cylinder, air cooled, radial engine. Both models embody a new system of concentric valves. Dealing first with the larger model of the two, the six water-cooled vertical cylinders are set separately on the top of the aluminium crank case. The valve system is operated from above. The valve gear consists of two concentric cylindrical sleeves. The outer one serves the purpose of an exhaust valve; the inner sleeve constitutes the inlet valve. The bottom of each sleeve butts on to a taper seating, locking the poppet valve. The exhaust valve seating is in the cylinder. The inner (inlet) valve-seat beds on a seating inside the exhaust valve, in which ports are uncovered by the raising of the inlet sleeve. This arrangement causes the ingoing gases to pass through the series of ports in the exhaust valve. These valves are worked by pull rods actuated by a master cam and short interposed rocker arms, which fit into the leaves on the upper ends of the sleeves. External springs are used to return the valves to their seats after they have been raised by the pull rods. Owing to the proportionately very large area of the passages provided for the gases, the amount of lift necessary for these details of the engine to act is relatively little. The exhaust valve is balanced against the cylinder internal pressure, which relieves the operating mechanism of heavy stresses. Four nuts only have to be undone to enable the valves to be taken out, whereupon the piston head is so exposed that carbon and so forth can be removed. The cylinder heads themselves are not detachable. The valves and operating gear are enclosed in an air-tight compartment, hence they cannot exude oil. Aluminium-bronze slipper type pistons, having four deep thin rings apiece, are used. The engine sump is dry, the main oil supply being contained in an external tank separate from the base chamber proper. A compound oil pump is used, one portion of which forces oil from the hollow crank shaft under high pressure to all the bearings, while the other draws the used oil back from the crank case to the external tank. This is a feature of aircraft engine practice adapted to a type of engine for car work. The points of it are that the oil is constantly in circulation; that it is taken into the engine as near the working temperature as possible; that it is withdrawn before it has had time to increase appreciably beyond that temperature, therefore a clean engine is obtained, because oil is not burnt, but courses over and over again. Hence this type of engine is economical of oil. This type of 15 h.p. six cylinder engine reveals each cylinder in the guise of a plain tube reduced in diameter around the valve and combustion chamber. Uniformity of thickness, therefore of cooling to the prevention of distortion, is achieved by machining each cylinder alike inside and out. Each cylinder has a separate steel jacket enclosing a narrow space, through which water is circulated by a special form of pump. The bore is 90 mm. and the piston travel 110 mm., giving an engine of 2½ litres capacity, which is reported to develop 21 h.p. at 1,250 crank-shaft revolutions a minute, and as much as 52 h.p. at 3,000 revolutions. In this engine the crank-shaft is built up of two sections, each embodying three crank-pins, the whole being supported on seven bearings. For the rest, the side members of the frame are

uncommonly deep. The steering wheel can be tilted to allow easy entrance to the driver's seat, while access to the rear seats is by a gangway between the two front ones. There are several other unusual features in the body type, including the fact that the rain-hood is arranged to fit back into a compartment where it is out of sight and is protected from dust and dirt. Electric engine starting gear and car lighting plant are features of the chassis.

A Radial Air-cooled Gas Engine.

The smaller Enfield-Allday model is even more original. It has also been designed by Mr. A. W. Reeves, the engineer who was designer successively to Sheffield-Simplex and Crossley. An example of the smaller model has gone through satisfactory and exhaustive tests in the hands of the designer and makers. It represents an entire break away from anything hitherto known in car construction. The bore and stroke measurements of the stationary radial engine are 63 mm. by 80 mm., giving a capacity of 1,247 c.cm., or approximately half the volume of the 15 h.p. model. The nominal horse-power of the light car at 1,250 revolutions a minute is 10.25, while the approximate maximum at 2,500 revolutions a minute is 20.5 h.p. In this tubular chassis, which, with engine, weighs 8½ cwt., the gearbox forms the central feature. It is practically centralized between the four wheels. At the rearward end of it is the bevel gear and the live axle; at the forward end is suspended the five-cylinder radial stationary air-cooled engine, which is set in such a fashion that there is a straight line between it and the back axle. Moreover, on the chassis two springs only are used; yet these are employed longitudinally and centrally, being something of the cantilever style. In this case the five cylinders of the engine are arranged radially on a stationary crank case enclosing a single throw built-up crank-shaft. A master connecting rod running on a plain bearing on the crank, and supported on its big end by four articulating connecting rods for the remaining cylinders is carried on the crank-shaft. The big end has no bolts, being fashioned in one piece and threaded on to the crank-pins when the built-up crank-shaft is assembled. The cylinders are stationary and the crank-case revolves, there being a light fly-wheel at the back of it which also forms a highly efficient fan drawing air through the cylinder jackets. The valve scheme here is the same as that previously described. The engine being arranged in a hinged cowl with a perforated screen in place of the conventional radiator, by opening the cowl the engine is exposed so that the carburetter, magneto, and other details are absolutely accessible. An unusual feature for the car owner, moreover, is the provision of means of releasing the engine as a unit from its anchorage so that it may be turned by hand to bring any disordered cylinder uppermost. On behalf of the design it is claimed that the system of cylinder and valve construction employed gives absolute uniformity of cooling; an extremely large valve opening area in proportion to cylinder capacity with the consequent very small lift; the possibility of designing the valve operating gear to be made very light, because the explosion terminal pressure does not resist the opening of the exhaust valve; an extraordinary accessibility, as illustrated by the fact that the undoing of four nuts enables both valves to be removed with the cylinder head. The power is transmitted from a single plate clutch connected by a hollow shaft to the three-speed gearbox before mentioned, the control lever of which is in the centre of the chassis, therefore access to the coachwork is from either side. From the gearbox the drive is taken by an enclosed propeller shaft to the helical bevel gearing of the back axle. The frame is of tubular construction. The body is supported on the frame by outriggers with projections from either side of it. A flexible connexion with the body to prevent undue side sway is provided at the front end of the propeller shaft casing. Triangular rods, back and front, are furnished to keep the axles at right angles with the centre line of the car. This form of construction means reducing to the minimum the vertical oscillation of the frame and body. It is claimed that the car will hold the road better than by the orthodox principle for vehicles of this size, and that appreciable reduction of wear is secured by the mode of construction employed. The streamlined body with anchored seats and bulbous back is of the three-quarter-clover-leaf pattern with a passage between the front seats to the back ones. By hinging the body it can be lifted at the front to a height of several feet, thereby rendering accessible the gearbox and other details beneath it.

Two Familiar British Types.

The 9.5 nominal horse power Standard light car has enjoyed an uninterrupted success since its introduction in 1911. Hence the manufacturers intend to market it in an improved form as a fully equipped two-seater car. Thus the post-war model has 20 mm. longer piston travel than the former types. A patent new style dashboard, with a tray that carries all the instruments, fitted flush and carrying a doubly adjustable screen, is another fresh feature. The two-seater body has been re-designed with a double dickey seat, whereby in a minute it can be turned into an entirely enclosed weatherproof car, with black hood and patent side curtains that allow of easy entrance and exit. All fittings are to be included in the round sum, it being understood that the car will be sold fully equipped for £275. War experience with the chassis as used for general passenger vehicles with six seats apiece gives ample assurance that the post-war model can easily carry the extra weight involved by the improvements and maintain the electric engine starting and lighting set incorporated in the design. Orders are to be dealt with in strict rotation. It is expected that deliveries will commence with the new year.

Swift of Coventry will concentrate on the production of the 10 h.p. and 15 h.p. models, the demand for which was growing at the outbreak of the war. It is hoped that these types will begin to be issued to the public soon after the new year. The leading feature of the firm's 1919 activities, when the whole proposition of turning over the factory shall be completed, however, is to be a new nominal 12 h.p. model. This will not be ready much before mid-summer. It will have a four-cylinder engine of 69 mm. bore by 130 mm. stroke, four-speed gearbox, electrical engine starting and car lighting system, and will be put on at a relatively low price.

Novelties from Abroad.

It is more difficult to review Continental and American cars in that nothing is yet known concerning the conditions as to importation. Suffice it, therefore, to say that the three largest Continental makers of cars of sizes calculated to be of interest to the medical profession in general—Peugeot and De Dion-Bouton in France and the Fiat enterprise in Italy—have announced light cars. Thus the new 8 h.p. four-cylinder Peugeot light car with quarter elliptic rear springing, footbrake behind the back axle, electric engine starting and lighting gear standardized, and four-speed gearbox has been supplied to the French army; hence it is a well tested proposition. The four-cylinder engine has 68 mm. bore measurement and a piston travel of 100 mm., giving 1,452 c.cm. capacity, the R.A.C. rating working out at 11 h.p.

Henceforth De Dion-Bouton cars for sale in the British empire are to be assembled in this country. This firm specialized on eight-cylinder car engines before the war, and will devote much attention to that sort hereafter. They have given excellently satisfactory service as staff cars, as well as being the type of chassis used for the greater proportion of the French army automobile search-light service and for the motorized "75" artillery. Inasmuch as the firm has been the biggest producer of Hispano-Suiza eight-cylinder aircraft engines in France, their experience is now available for making its post-war eight-cylinder car engines, and very different performances may be expected from the relatively sluggish and heavy pre-war achievement. The two chassis contemplated for the British market are a nominal 12 h.p. four-cylinder one with a vertical engine having a bore of 70 mm. and a piston travel of 120 mm., and an eight-cylinder engine with a bore of 60 mm. and a piston travel of 100 mm., also rated at 12 nominal h.p. The smaller chassis will take either of these engines. Again, the larger chassis will take either a 15–18 h.p., four cylinder engine, with a bore of 85 mm. and a piston travel of 130 mm., or an eight-cylinder engine of 70 mm. bore by 120 mm. stroke. All models are to be fitted with electrical engine starters and car lighting gear, while each car is to have a Victrix magneto, which the firm has been making for war service for three years past. Incidentally the type has served for all its car and aviation engines. It is

expected that the biggest demand in this country will be for the nominal 12 h.p. eight-cylinder engine, by reason of its range of power. Deliveries to the public are planned to begin in comparatively a short time.

The Fiat firm at Turin has a staff of 40,000 workpeople and a factory which is claimed to be the biggest in this trade in Europe. One of the notable features of its after-war programme will be a light car at a moderate price—round about £200—and of the same quality workmanship as will be embodied in the larger models. The engine will be of the relatively high speed four-cylinder type developing 14 h.p. A unique feature for a Continental manufacturer is the final transmission by worm drive. When the model appears it will also be found that original features are embodied in the suspension details. Of course, electrical engine starting and car lighting equipment is, besides, incorporated in the scheme. Incidentally, the indication of the price for an article the raw materials to make which have to be taken to Italy and the machine sent overseas to the market, should be a lesson to Labour in this country concerning the impracticability of asking war-time pay and a bonus to work on car production, whilst taking longer, not less time than before the war, to make the vehicle.

AN INTER-ALLIED FELLOWSHIP OF MEDICINE.

SIR W. ARBUTHNOT LANE presided over a meeting at the house of the Royal Society of Medicine on December 4th to consider further the desirability of forming an association for co-operation in medicine among the English-speaking countries, but not limited to them. Among those present were Major J. H. Means (U.S.A.), Lieut.-Colonel Castellani (Italy), and Professor Weinberg (Paris). The acting honorary secretaries appointed at a previous meeting were Sir StClair Thomson and Mr. J. Y. W. MacAlister. The latter submitted the following report:

Preliminary Report.

The present movement was originated at a largely attended meeting held by invitation at Lord Eustace Percy's house, at which he urged that the opportunity presented by the coming together of medical men from America and all parts of the British Dominions should be utilized to organize some form of permanent organization which would result in a closer union between the English-speaking peoples through the medium of the medical profession. The proposal was warmly endorsed by those present, and Sir StClair Thomson and myself were asked to act as honorary secretaries and to endeavour to formulate a definite scheme and take the necessary steps for carrying it into effect.

I am afraid we have been able to do very little beyond sowing seed. A circular setting out our aims was prepared by Sir StClair Thomson, and circulated, in the first place, to the chiefs of the medical forces of this country, of the Dominions, and of America, and from these very cordial expressions of approval and promises of support were obtained. The circular, backed by the opinions of those to whom we had first appealed, was then issued to a wider public, and many very gratifying and encouraging letters have been received. But practical progress depended as usual on the all-important question of finance, and in that direction we have no success to report. We had asked for and been promised an interview with the Prime Minister and Mr. Bonar Law in the hope of persuading the Government to make a grant, but (one dare not say "unfortunately") the armistice intervened, and since then it would have been futile, if not impertinent, to trouble the Prime Minister with our affairs, and so, as far as finance is concerned, we have no progress to report. We have received letters which encourage us to believe that if a definite and approved scheme is prepared we may be able to get financial help from private persons.

A letter signed by some of those who took part in the first meeting was addressed to the Council of the Royal Society of Medicine, asking for its support, and they at once very generously agreed to let our organization have a room for an office, and to arrange from time to time to hold meetings in this house, so that "No. 1, Wimpole Street" may now be regarded as our official head quarters.

Medical officers of the Dominions, of America, and of all the Allies have been cordially invited to consider themselves at home in this house, to use the library and Fellows' rooms, and as far as possible to use us as a central bureau of information, and I am glad to say that many have responded, and appear to appreciate what we have tried to do.

The Council Club of the Royal Society of Medicine has taken the opportunity of offering a little social hospitality to our visitors from overseas, with the result that every day, between 4 and 6, tea, coffee, and cigarettes are provided for all our visitors. It is a small thing, but it is hoped that it will have the effect of making them feel at home; and that at any rate, if engaged in work in the library, they can enjoy the mild refreshment offered without leaving the building.

As one of the first friends of the movement, the Director-General (General Goodwin) sent a circular letter to all his commands inviting them to act upon the suggestions made at the first meeting, with the most gratifying result, and I understand that at all the commands throughout the country medical officers from overseas are cordially invited to attend the clinics, lectures, and demonstrations, and, indeed, to see whatever is to be seen at the various commands, and in some of them more or less elaborate arrangements have been made for systematic courses, notably at Liverpool, where a syllabus has been prepared and issued, and General Goodwin informs me that all over the country the commands are now visited by the medical officers of the Dominions, of America, and of our Allies.

As regards London, I have communicated with all the principal hospitals, and practically in every case they have responded cordially, and have invited our overseas visitors to come to the hospitals during hours stated, and to attend lectures or operations. In this connexion you may have noticed in the entrance hall a special notice board calling attention to what is going on at the hospitals, from most of which I receive every day announcements of operations, which are promptly placed upon the board.

Altogether we think we are justified in persevering and that we should without delay seize the opportunity of establishing a permanent central organization that will provide a means of intercommunication between members of the medical profession of all the allied nations, and, if this meeting approves, it is suggested that a committee be appointed to advise and help in the work and that a treasurer and honorary secretaries be also now appointed to act under the direction of the committee.

Sir Arbuthnot Lane has kindly undertaken to accept the office of treasurer, and, if the meeting approves, it is suggested that the present acting secretaries continue—at any rate, for a time—and that Mr. Douglas Harmer be joined with them, for the work is of such a nature that it would probably be better done by three than by two.

Some expense has, of course, been incurred, for which at the present moment the acting secretaries are personally responsible, but if real and decently rapid progress is to be made, there should be funds to provide for at least one or two clerks, and suggestions from the meeting on this point are invited. The most practical suggestions will probably take the form of cheques!

SIR STCLAIR THOMSON, in seconding the adoption of the report, urged that in addition to the bureau of information it was desirable to establish personal and individual co-operation, and that volunteers should offer to take personally conducted parties to visit hospitals, museums, and other medical institutions. He was certain that such personal co-operation would be very effective in creating a permanent Entente.

Decision.

After some discussion, in which the CHAIRMAN, Sir WALTER FLETCHER, Sir STCLAIR THOMSON, Colonel STOCK, Colonel HEALD, Major MEANS, Colonel CASTELLANI, Colonel WEINBERG, Dr. SORAPURE, Mr. MACALISTER, and others took part, it was unanimously resolved to constitute the proposed organization with the object of drawing together the members of the medical profession in the inter-allied countries with a view to promoting intercourse and co-operation for the promotion of medical science and public health.

A general committee was nominated, and Sir Arbuthnot Lane was appointed honorary treasurer, and Sir StClair Thomson, Mr. Douglas Harmer, and Mr. J. Y. W. MacAlister honorary secretaries (*pro tem.*).

THE Right Hon. Robert Farquharson, M.D., P.C., ex-M.P. for West Aberdeenshire, left personal estate in England and Scotland of £15,930 and real estate in Scotland over £100,000.

ANTE-NATAL TREATMENT OF SYPHILIS.

DEMONSTRATION OF RESULTS AT THE LONDON HOSPITAL.

A DEMONSTRATION of the results of pre-natal treatment of syphilis was given at the London Hospital on December 18th, when a number of medical men and women and others interested in health and social work attended at the invitation of the chairman of the hospital, Viscount Knutsford, and Dr. J. H. Sequeira, the director of the venereal clinic and of the skin department. More than forty infants were present with their mothers at a Christmas gathering, and the visitors were able to see for themselves the healthy appearance of the children. All the children were born of mothers who had been treated for syphilis in the department during pregnancy, and in each instance the child was free from clinical evidence of congenital disease.

Lord KNUTSFORD, in presiding over a brief preliminary discussion in the adjoining room, explained that many women in the area served by the hospital had been found to have successive miscarriages owing to syphilis. As a result of Dr. Sequeira's work, not only were the miscarriages and stillbirths prevented, but the children were born free from disease. Such a work would not have been possible at the London Hospital without the generous help of the Grocers' Company of the City of London, who made it one of their special objects to help philanthropic work which had a scientific basis. This company gave £10,000 to build wards for accommodating syphilitic cases. The cases were collected through various organizations. It was thought when the department was started that it would be difficult to get the expectant mother to come and declare herself syphilitic, but in practice this difficulty did not seem to arise. Some of the mothers came to the obstetric or maternity department with a history of miscarriages; other suspected cases were sent on by maternity almoners who worked the district within the radius of a mile of the hospital; the City of London Lying-in Hospital also sent a number of cases. The department was now connecting up with various maternity centres, and it was desired to complete this last piece of organization and to suggest the same plan to hospitals in other districts.

Dr. SEQUEIRA referred to the new spirit with which this whole question was now approached. A clause in the charter of the London Hospital which at one time held good denied admission to pregnant women and also to persons suffering from venereal diseases. There were some institutions where the spirit of that old by-law still survived, and his desire was to prove that this bit of progressivism was not only without danger to the receiving institution, but that it had great advantage for the community. Since March 1st, 1916, when, thanks to the generosity and enlightenment of the Grocers' Company, the wards were opened, fifty-six pregnant women suffering from syphilis had been treated in the private rooms of those wards, and these women in due time had borne children, forty-five of whom, absolutely free from infection, were present that afternoon. Seven patients could not be traced owing to removals. In four other cases replies had been received from the mothers that the children had died, in one case from influenza, in another from marasmus probably due to bad feeding, and in two other cases from causes which he had not been able to ascertain, but even if these children died from congenital syphilis, the result remained remarkably good. Some of the women came to the venereal department and were found to be pregnant, others were sent from the obstetric department and from outside organizations, were first examined by the Wassermann test, and, if this was positive, came to his department for treatment. After treatment they went to the lying-in ward or came under the out-patient charity, and were attended by the midwives and senior students under the supervision of the obstetric physicians of the hospital. He was often asked whether it was not a serious thing to send these women into the lying-in ward, but having received injections, they were not sources of infection to operator or nurse, provided due care were taken. It was also asked whether the injection might not cause a pregnant woman to miscarry, but this occurrence was so rare as not to invalidate his general statement that every patient found to be suffering from syphilis should be treated and treated promptly. He gave particulars of some cases in detail. One woman (who was present that afternoon with her infant) had a child born dead in 1907, a second born dead in 1909, a third born alive in 1913, but the subject of congenital syphilis, and in her fourth pregnancy, after being treated in the department, had a baby born at full term and with a negative Wassermann reaction. Another woman with a syphilitic history came to the department in 1916, and had had two children since the treatment, both of whom were alive and well. Another with three miscarriages before treatment now had a healthy child. Yet another, who had had five miscarriages, was treated in February, 1917, when she was two months in pregnancy; her child was born in September, and was now, at 14 months, a perfectly healthy child, with a negative Wassermann reaction. In conclusion, Dr. Sequeira pointed out the necessity for co-operation between the maternity centres, the infant welfare centre, the laboratory where the Wassermann test was done, and the venereal clinic. Lately the officers in charge of maternity and child welfare centres had been sending cases, and it was this side of the work which needed enlargement and official encouragement. A medical officer of the venereal clinic in a town of 40,000 inhabitants was visiting the department recently, and the speaker asked him if he worked in association with the maternity centre. His reply was that he did not know whether his town had one. Evidently there was want of co-ordination somewhere. Dr. Sequeira concluded by acknowledging his indebtedness to his obstetric and other colleagues, his clinical assistants, and the nursing staff.

Sir THOMAS BARLOW congratulated Dr. Sequeira on his results, and the team work which had made them possible. The conduct of his clinic was an object lesson to them all. In tackling sociological problems like venereal diseases and inebriety, there ought to be a friendly conspiracy between all people of knowledge and good-will.

Dr. MARY SCHARLIEB endorsed Sir Thomas Barlow's remarks, especially from the point of view of women doctors, nurses, and all women concerned for the future of the race. It was very important that the mothers should be made to feel themselves sisters and fellow citizens, and that an atmosphere of sympathy and not of reproof should be created.

Sir ARTHUR NEWSHOLME said that he would quote the London Hospital as an example of co-operation between the different departments, to justify the setting up of these clinics in a general hospital. He and his department at the Local Government Board attached great importance to the securing of co-operation between child welfare and venereal disease centres, and also between such centres and the general practitioner. Efforts had already been made in that direction with some measure of success, which would have been greater but for the large diversion of practitioners to army service. Midwives and general practitioners had been advised to send their patients, especially those who had had repeated miscarriages, to the venereal clinic; the importance of this co-operation was fully realized officially, and he believed that within the next year or two it would be much further developed.

THE *Journal Officiel* has promulgated a decree organizing the control of the making and distribution of radium and in general of all radio-active bodies and luminous products derived from that substance. A bureau of radio-active bodies in connexion with the Ministry of Armament is charged with the fabrication, importation, and exportation of these agents, but the control for medical purposes will be exercised by the Under Secretary of State for the Health Service of the French Army.

THE ninth annual report of the Council of the Indian Institute of Science, Bengalore, shows that the buildings are now nearly complete, and it is expected that the library block will be taken over during the current session. The income paid to the council by the board of management of the properties in Bombay was £8,794, and exceeded the sum guaranteed by £461. The Government of India has increased its contribution by half that amount, and the Government of the Nizam of Hyderabad has promised £666 a year for three years. The institute has co-operated with the Indian Munitions Board in the utilization of local resources for war purposes. The experimental work in connexion with the production of acetone, formerly carried on in the institute, has been transferred to the Government acetone factory at Nasik. Sir Alfred Bourne, whose term of office as director of the institute expired in 1917, is continuing in office for the present.

British Medical Journal.

SATURDAY, DECEMBER 28TH, 1918.

MEDICAL DEMOBILIZATION.

MORE than a year ago we expressed the opinion that in the process of medical demobilization after the close of hostilities those medical officers who gave up most, those who had served longest, and those whose conditions of service were hardest had the first claim to be returned to civilian practice. We had reason to believe that this view was shared alike by the members of the professional committees who were already studying the matter and by the profession at large. As a general principle it appealed to the British sense of fair play, and it has never been openly challenged.

During the autumn months the Central Medical War Committee, whose energies had perforce been turned into other channels, took up this subject again, and a revised scheme for priority of release was handed to the Ministry of National Service before the end of November. This scheme, of which we gave an outline on December 14th, embodies the principle stated above, and it has now been approved in detail by the Ministry of National Service, through which Government department the demobilization of civilian doctors serving as medical officers in the navy, the army, and the air force will be arranged. Our contention that, other things being equal, long service created a title to early release, had, indeed, we believe, been accepted not only by that Ministry but by the War Office and by the Interdepartmental Committee on Medical Services.

It so happened that the cessation of hostilities coincided with a period when the existing shortage of doctors in civilian life was aggravated by the strain upon the medical profession due to the epidemic of influenza. It became necessary, therefore, to apply to the War Office for the demobilization of a limited number of medical officers, irrespective of length of service or personal hardship, in order to relieve the pressure in areas where there seemed to be a risk of breakdown of medical attendance on the civil population. The machinery of the professional committees, both central and local, was used to ascertain the districts so seriously depleted of medical men as to be in danger, and to select from among the medical men of such districts serving with the army those most likely to avert a breakdown. The object of these withdrawals has been to relieve the urgent pressure on the civil medical profession. It is an emergency measure governed by the needs of certain localities during a period of exceptional strain. As we remarked a fortnight ago, such priority of release would give some men an advantage to which they had no claim on personal grounds; but there was a clear understanding that the number of doctors so released in order to cope with the epidemic of influenza would be comparatively small, and that demobilization in general would proceed along the lines laid down.

For the time being, medical officers with the forces would seem to be in much the same position as other officers and men. General demobilization has not yet begun, but certain men are being released on urgent public grounds without regard to length of service or personal circumstances. This, in so far as concerns medical men, is borne out by an announcement made last week by the Ministry of National Service, which we print in the SUPPLEMENT. It is therein stated that until general demobilization of the forces begins the withdrawal of medical officers must remain strictly limited, "and, in view of the serious shortage of doctors in many parts of the country, the officers to be released first must be those whose return to civil practice will maintain and strengthen the medical service of those areas." But when general demobilization begins medical officers will be withdrawn from the forces "on a scheme of priority based upon both public and personal grounds"—that is to say, according to the plan drawn up by the Central Medical War Committee. We have indicated many times that the general order of release would not be applied rigidly to all officers alike, but that every doctor on service would be given an opportunity to state his case for early or special treatment. In order that every case may be fully considered, steps are being taken by the Ministry of National Service, in conjunction with the Admiralty, the War Office, and the Air Ministry, to obtain the necessary information from every serving medical officer. We expect to be able to reproduce in an early issue the form of inquiry which is being circulated.

We hope the Ministry of National Service and the professional committees will be on their guard against any attempt on the part of other Government departments to delay bringing into operation the scheme of priority according to which the personal claims of the men on service would receive full consideration. On the one side there are the military authorities with their reluctance to let go the doctors whom they have; on the other side there are the Insurance Commissioners with their official solicitude for the medical care of the insured population as apart from the remainder of the community. Between these two forces pulling different ways there seems to us to be some danger that the interests of the individual officer who quitted private practice in the first days of the war may be neglected. We should regard that as a breach of faith. We have always recognized the claims of the civil population, but we would point out that every doctor returned to civilian practice on personal grounds—whether his practice be wholly insurance, partly insurance, or wholly private—will help to satisfy the medical needs of the civil population as a whole. And this seems to us to be implicit in the announcement made by the Ministry of National Service.

MEDICINE AND INDUSTRY.

THE war and all that it has meant for the individual and the nation has compelled a fresh study of many problems the very existence of which was unknown to the public, though they had attracted the attention here and there of a specialist. The war made their solution urgent. One striking illustration is afforded by industrial problems raised by the enormous increases in industries engaged upon the supply of troops in the field and the consequent setting up of many large munition works more or less directly under Government control. This led directly to the inquiries as to the prevention of industrial diseases, and the scientific investigations and experiments into the causes and nature of industrial fatigue recorded in the various reports of the Health of Munition Workers Committee. It also caused attention to be turned to what is called the scientific management of factories, a department of the subject as to which we in this country have learnt much from the United States.

A great deal, however, remains to be done, and many suggestions in this direction are contained in a stimulating address on "medical industrial relations of the war" by Professor D. L. Edsall of Boston,[1] who makes a strong appeal to the medical profession to take a greater interest in industrial matters. He says that until quite recently society at large, as well as the employers and the working people themselves, had, even in America, done very little to secure industrial health, but that during the last few years they have moved much faster than medical men, who have so far taken too small a part in the movement. The war, by increasing the number of specially dangerous forms of occupation and the number of persons engaged in them, has hastened the movement for the preservation of the health of workpeople; Professor Edsall welcomes the consequent appearance of a new type of medical man—the industrial doctor—but is anxious that his position should be defined. In some industrial organizations the doctor has not taken his proper place, but has allowed himself to be subordinated to "welfare departments"; his work should be co-ordinated with them, but he should not be subordinate to them.

The need for independent and skilled medical practitioners for this work is illustrated by Dr. Alice Hamilton's collection of 2,507 cases of poisoning among munition workers, 1,400 due to fumes of nitrogen oxide and nearly 700 to trinitrotoluol. Professor Edsall, however, goes on to point out that industrial poisoning may pass undetected unless special care is taken to look out for it. He states that in March, 1916, a clinic for the study of occupational diseases was started at the Massachusetts General Hospital; among the 5,100 patients treated during the first year there were 148 of plumbism, whereas during the previous five years the cases treated in the hospital and out-patient rooms numbered only 146. Again, trained observation of the workers in factories brings to light new forms of disease; as an example, he mentions chronic manganese poisoning as a cause of a type of nervous disorder characterized in the early stage by a peculiar gait aptly termed "rooster gait," later by other alterations in the mode of progression, and occasionally by distinct mental changes; other examples he quotes are neurosis and synovitis of the right arm and hand in calenderers, and a disorder of workers in soft stone associated with the use of the pneumatic hammer, the last a singularly good illustration of the importance of observing slight details of the work. Other examples will occur to those familiar with the English literature on industrial diseases.

The problem of how to deal most efficiently with those damaged or partially incapacitated by industrial work, how to select the work those thus handicapped can do, and how far those medically crippled require vocational readjustment, must be decided to a large extent by members of the medical profession. The work started in this country by the Health of Munition Workers Committee and now to be continued by the Industrial Fatigue Research Board, the constitution of which is noted elsewhere in this issue, has been undertaken in America by the Committee on Industrial Fatigue. The problem, in Professor Edsall's view, is like that of successfully training an athletic team so as to avoid the extremes of flabbiness from too little effort and staleness from too much. The belief that the longer the hours the greater the output, was long accepted on *a priori* grounds, but when put to the test of observation and experiment it was found to be erroneous. The whole truth about the matter has not yet been ascertained, but enough has been found out to convince many industrial managers that the problem of industrial fatigue is medico-physiological.

Wages and the hours of work are the two great causes of the conflict between labour and capital, which, next to the terms of peace, is perhaps the most important thing in the world. It would be a vast benefit to humanity if these disputes could be settled by methods which appear reasonable to both parties; it seems possible that medicine might play this beneficent part. A wide conception of the relations of medicine to industry is necessary. Professor Edsall's conclusion is that doctors should be trained for industrial appointments, and that during their student days they should be made familiar with these problems through the general atmosphere of their medical schools.

[1] D. L. Edsall, *Johns Hopkins Hosp. Bull.*, Baltimore, 1918, xxix, 197–205.

THE HOME-COMING.

THE welcome given to Field-Marshal Haig and his principal officers on their way through London to Buckingham Palace on December 19th had that touch of comradeship which befitted the occasion, for among the crowds which cheered all along the road were many, in and out of khaki, who had served with them in France and knew the person, the character, and the achievements of each officer in the five carriages. With Sir Douglas Haig were not only the general officers commanding the five British armies in France, but also the chiefs of branches at General Head Quarters, including Lieut.-General Sir H. A. Lawrence, Chief of the General Staff; Lieut.-General C. H. Burtchaell, Director-General, Medical Services, France; and Major-General J. M. Salmond, Commanding the Royal Air Force. There were no speeches at the King's luncheon, but at Dover Field-Marshal Haig said that the reception there was a foretaste of the welcome at the home-coming, which he hoped would be soon, of "the wonderful men whose unequalled courage and endurance through more than four years of struggle have brought us at length by victory to peace." In this welcome, as in the welcome last week, medicine will have its honoured place.

UNIVERSITY MEMBERS.

WE congratulate Sir William Whitla on being the first medical man to be elected to the new Parliament. He stood as a Unionist, and was returned for the Queen's University, Belfast, on December 20th, by 1,487 votes against 118 for the Sinn Fein candidate. Sir Robert Woods was the second medical man to be elected; when the poll at the University of Dublin was declared on December 21st he was found to stand second to Mr. A. W. Samuels (Unionist), who had 1,273 votes. Sir Robert Woods, who stood as Independent, polled 793, but by the operation of the transferable vote this total was raised to 1,094; he defeated Mr. Jellett, the other Unionist candidate, by 162 votes, and Captain Gwynn (Nationalist) by 536. Sir William Whitla is well known to members of the British Medical Association, for he was President of the Association at the annual meeting in Belfast in 1909. Sir Robert Woods had a very distinguished career in the University of Dublin, where he graduated M.B., B.Ch. in 1889, and afterwards received the honorary degree of M.Ch. He is now professor of laryngology and otology in Trinity College, Dublin. He was president of the Royal College of Surgeons in Ireland 1910–12. The University of Oxford has re-elected by very large majorities the two members, Lord Hugh Cecil and Mr. R. E. Prothero, President of the Board of Agriculture, who had represented it before. At Cambridge, also, the two

representatives in the last Parliament, Mr. Rawlinson and Sir Joseph Larmor, have been re-elected. The Independent candidate, Mr. Dampier Whetham, Fellow of Trinity College, and well known as a writer on social subjects, made so good a showing that the graduates of the university in medicine and biology may be encouraged to challenge the seat on some future occasion. The first member for the University of Wales, enfranchised by the Act of this year, is the Right Hon. Herbert Lewis, Parliamentary Secretary to the Board of Education since 1915, and before that Parliamentary Secretary to the Local Government Board. He has long taken a great interest in the development of university education in Wales, and his election by a very large majority is evidence of the high appreciation in which his services are held by the graduates of the university.

BELGIAN DOCTORS IN ENGLAND.

DR. CLÉMENT PHILIPPE, who arrived in London from Belgium on October 16th, 1914, was able at once, with the assistance of Drs. J. H. and H. A. Philpot, and Miss Davenport, to establish a dispensary in Aldwych for the thousands of Belgian refugees. It was for some time attended by Drs. Philpot and Dr. Des Vœux, and several Belgian doctors, but later on, with the assistance of the War Refugees Committee, it was transferred to Sheffield Street, where it was conducted under the direction of the Metropolitan Asylums Board. Dr. Clément Philippe took the lead also in establishing the "Société Belge de Médecine et de Pharmacie en Angleterre," and was able to announce to its first meeting that Belgian doctors, who had then recently reached England in considerable numbers, had been granted permission to practise in this country. Among the honorary presidents of this society were Sir Frederick Taylor (then president of the Royal Society of Medicine) and Dr. Charles Jacobs (president of the Belgian Doctors' and Pharmacists' Relief Fund). In an article published in *Le Belge Indépendant* special thanks are expressed to Sir Frederick Taylor and to the Royal Society of Medicine in London, who placed the society's house in Wimpole Street and a room in which the meetings could be held at the disposal of the Belgian society. The Belgian doctors, to the number of 353, soon found employment in the army, in the English hospitals, and in France, where the right to practise was granted at the request of the president of the Belgian society. The refugee pharmacists, to the number of about one hundred, found it more difficult to obtain occupation, and a number of members of the families of Belgian doctors reached this country in distressed circumstances. Dr. Jacobs accordingly put himself into communication with members of the profession in London and with the editors of the *Lancet* and the BRITISH MEDICAL JOURNAL. The result was the foundation of the Belgian Doctors' and Pharmacists' Relief Fund, which, by the generosity of members of the profession throughout the British Empire, was able at once to give assistance in this country, and also in Belgium, where, indeed, by far the greater part of the £25,000 received by the Fund has been expended, on the advice of the committee formed in Belgium, under the presidency of Dr. Pechère. The Belgian doctors are now able to return to their own country, and their society, on the suggestion of its president, Dr. Clément Philippe, has been able to make arrangements for the medical treatment of their compatriots remaining in London. The Metropolitan Asylums Board has consented, at the instance of Mgr. Carton de Wiart and Dr. Jacobs, to admit to its hospitals indigent Belgian sick from the dispensary in Sheffield Street, and to provide for their treatment by Belgian doctors. The tuberculous and mental cases among them will be admitted to the English asylums and sanatoriums, and subscriptions amounting to £1,000 have enabled the society to allocate beds in the French Hospital as a Belgian maternity department. The thanks of the society have been given to Sir Frederick Taylor, to the officers of the Belgian Doctors' and Pharmacists' Relief Fund—Sir Rickman Godlee (chairman), Dr. Des Vœux (treasurer), and Dr. Squire Sprigge (honorary secretary)—and also to the *Lancet* and the BRITISH MEDICAL JOURNAL.

THE STUDY OF INDUSTRIAL FATIGUE.

THE Industrial Fatigue Research Board has now been completed. The work was begun by the Health of Munition Workers Committee of the Ministry of Munitions, upon which Dr. Leonard Hill and Sir Walter Fletcher served from the time of its appointment in 1915. That committee was dissolved at the beginning of 1918, and issued its final report last May. But the excellence of its work led to the expression of a wish that arrangements should be made for maintaining on a permanent footing an organization for the systematic investigation of the natural laws of industrial fatigue. Their study, though primarily physiological, offers a field of inquiry in which a knowledge both of medicine and the industrial sciences are necessary for full success. The department of Scientific and Industrial Research and the Medical Research Committee accordingly determined to establish a permanent organization, and to contribute the necessary financial aid in due proportion. The proposal was warmly approved by the Home Office, which expressed a desire for the immediate establishment of a research organization of the kind indicated. An Industrial Fatigue Research Board was therefore established a short time ago and has now been completed. It will continue the organizing functions of the two bodies and the investigations already in progress. The Board is instructed "to consider and investigate the relations of hours of labour and of other conditions of employment, including methods of work, to the production of fatigue, having regard both to industrial efficiency and to the preservation of health among the workers." The duty of the Board will be to initiate, organize, and promote by research, grants, or otherwise, investigations in different industries, with a view to finding the most favourable hours of labour, spells of work, rest pauses, and other conditions applicable to the various processes according to the nature of the work and its demands on the worker. For these investigations the Board looks forward to receiving the help of employers and workmen in the industries which are studied, and in appropriate cases representatives of both will be invited to serve as temporary members of the Board. The chairman of the board is Dr. C. S. Sherrington, F.R.S., Professor of Physiology in the University of Oxford, and the members are Dr. E. L. Collis (Director of Welfare and Health, Ministry of Munitions), Sir Walter Fletcher, M.D., F.R.S. (Secretary, Medical Research Committee), Mr. W. L. Hichens (Chairman of Messrs. Cammell, Laird and Co., Ltd.), Mr. Edward Hopkinson, D.Sc. (Director of Messrs. Mather and Platt, Manchester), Mr. Kenneth Lee (Director of Messrs. Tootal, Broadhurst Lee Co., Ltd.), Dr. T. M. Legge, C.B.E. (H.M. Medical Inspector of Factories), Colonel C. S. Myers, M.D., F.R.S. (Director of the Psychological Laboratory, Cambridge), Mr. R. R. Bannatyne (Assessor representing the Home Office). The secretary is Mr. D. R. Wilson, H.M. Inspector of Factories to whom at 15, Great George Street, Westminster, S.W.1, suggestions as to any problems needing investigation should be addressed.

MEDICAL DEMOBILIZATION IN FRANCE.

IN France, as in this country, the manner of the demobilization of the medical profession is giving rise to a good deal of discussion. It is contended on the one side that as the fighting has ceased and no more soldiers are being wounded the civilian public may justly claim the return of its medical advisers. The army, on the other side, objects that it has still three hundred thousand wounded on its

hands, to say nothing of the other army medical work to be done, and must retain a large staff. The principle governing demobilization in France is age, and this, in a country which had conscription before the war, comes practically to the same thing as length of war service. Men of the classes 1891, 1892, and 1893, or earlier are to be sent to their homes between December 25th and January 18th, 1919; those of the classes 1894 to 1897 between January 21st and February 14th. The strict application of the age rule is, however, modified by regulations which give certain advantages to fathers of families, and to men who have lost two or more brothers in the war. Thus a father is placed in a class a year earlier for each child he has, and an extra year is given to a widower. It was at first announced that medical officers of the class of 1894 and earlier years would be immediately set free to return to their civil practices. The satisfaction this statement caused to the civil population and to the medical officers themselves was quickly dashed by the discovery that the plan would only be carried out as and when military exigencies permit. It seems to be feared that the medical authorities of the French army, as perhaps of others, in order to be on the safe side, will retain in military service more medical officers than the army really needs, and that in consequence the medical will suffer a disadvantage from which other callings are free. However this may be, the profession, both in France and Great Britain, may take to itself the comfort that it has never before received such flattering testimony of the esteem with which it is regarded by the civil population, and of the great value attached to its services by the military.

CONTROL OF VENEREAL DISEASE IN AUSTRIA.

In a paper on the care of adolescents suffering from venereal disease Professor E. Finger[1] of Vienna described the measures, curative and educative, adopted in the four hospitals under his supervision. In addition to the beds in his own clinic, he is responsible for a new hospital for men with 520 beds, a new hospital for women with 560 beds, and a new department of the Kaiser Franz-Josef Hospital for controlled prostitutes with 250 beds. The total number of beds allocated to venereal disease under his control is 1,530. Suspect women, arrested by the police, are dealt with under the provisions of the vagabond law of 1885. If they fail to prove that they are honestly employed, they are subjected to medical examination, and, if found to be infectious, are interned in hospital. This procedure Professor Finger considers unfair. The "part-time" prostitute can establish her immunity to medical examination by a reference to her regular employment, even when caught in the act of prostitution. On the other hand, the woman who can claim no regular employment is subject to compulsory examination. Professor Finger does not, however, suggest any remedy for this state of affairs. In the new hospital for women with 560 beds every effort has been made not to discharge the patients as long as they are infectious. This principle has been adopted even in the case of gonorrhoea, which is notoriously difficult to cure in women. Only after careful weekly examinations, frequently repeated, have proved negative, is the patient discharged. Special importance is attached to the examinations just before and after menstruation. Thanks to the painstaking local treatment carried out by the women doctors attached to the hospital, this standard has proved attainable, and the permanency of the cure has frequently been verified when the patients have been re-admitted months later for other complaints. In recent syphilis an energetic course of mercury-salvarsan treatment is continued till the Wassermann reaction becomes negative. In several cases two such courses are given with a suitable interval before the patient is discharged from the hospital. About one-fifth of the patients are young girls for whom lack of occupation and contact with the seasoned prostitute are particularly undesirable; such acquaintances are apt to lead the novice after discharge into the toils of the procuress and brothel proprietor. The problem is not only to find employment for the employable but also to isolate the incipient from the hardened prostitute. On the ground floor of the hospital workrooms have been provided, open only to patients willing to work. Here sewing, washing ironing, etc., are taught, and facilities are provided for the patients to wash and mend their own clothes. Professor Finger attaches much importance to after-care, without which weeks or even months of education in an institution may be wasted.

[1] *Wien. med. Woch.*, No. 10, 1918.

HAEMORRHAGIC SPIROCHAETAL BRONCHITIS.

Records of the occurrence of broncho-spirochaetosis have increased so rapidly since Castellani recognized the infection in Ceylon in 1905 that the suspicion arises that the disease is probably commoner than has generally been supposed. In the six years following Castellani's original observation cases were recognized in the West Indies, the Philippine Islands, and in India. More recently, numerous cases have been reported in various parts of Africa. In 1915 Lurie observed a number of cases in Serbia, and, as was noted in the JOURNAL last June, Violle reported to the Académie de Médecine, Paris, a series of cases occurring during the first three months of this year in a naval hospital near Toulon. Two types are recognized—acute and chronic—and some would make a subacute variety. Castellani pointed out that the acute type had been generally mistaken for influenza or malaria, and the chronic, presenting blood in the expectoration, for phthisis. We now have a paper by Captain J. A. Thomson, published at p. 709, which supports both these observations. The cases were invalided from Salonica, and were admitted into a special malaria hospital in this country, where they came under the suspicion of tuberculous infection. It seems probable that they were originally diagnosed in the acute stage as malaria, and that the diagnosis was not in all cases correct. At any rate, the examination for the malaria parasite in the hospital in this country was very frequently negative.

THE BIOLOGY OF A LIFE TABLE.

At a meeting of the Royal Statistical Society on December 17th Dr. John Brownlee, Statistician to the Medical Research Committee, read an extremely interesting paper entitled "Notes on the biology of a life table." Dr. Brownlee's chief aim was to elucidate the inter-relations of mortality as experienced at different times and by different populations and expressed in the various life tables. By an ingenious mathematical process, based on the general biological assumption that somatic death is a phenomenon explicable in terms of physico-chemical laws, Dr. Brownlee was able to deduce values in good general agreement with those of the life tables and to show that the constants of the different tables were linked up by simple relations. He pointed out that Farr's hypothesis that the death-rate of a district varied with the density of population was confirmed by a study of the data for three decennia, and that the form of the equations suggested that "the efforts of sanitation have improved health all round, but have not fundamentally altered the relationships which hold between overcrowding and health." Dr. Brownlee's paper is eminently suggestive, and his results reinforce the contention so frequently urged in our columns that the phenomena of mortality and morbidity must be looked at steadily as wholes; and that attempts at simplification, attention being concentrated upon particular causes of death, ought not to be made the only line of research.

A NEW hospital has been opened at La Paz, where the medical faculty of Bolivia is situated in the picturesque valley of Miraflores. The foundations were laid in 1913, and the building is intended to be the general hospital of the town.

THE WAR.

CASUALTIES IN THE MEDICAL SERVICES.

ROYAL NAVY.

Died on Service.

SURGEON LIEUTENANT COMMANDER M. H. LANGFORD, D.S.O., R.N.

Surgeon Lieutenant Commander Martyn Henry Langford, D.S.O., R.N., died of influenza on December 15th at Dar-es-Salaam, East Africa, aged 34. He was the only son of Mr. H. J. Langford of Trenant, Plymouth, was educated at Plymouth College and at the Middlesex Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1909. He entered the navy as surgeon on November 5 h. 1909, and became staff surgeon on November 5th, 1917. He joined the battle cruiser *Inflexible* in December, 1912, and was serving in her when she took part in the action off the Falkland Islands in which Von Spee's fleet was destroyed, in December, 1914. He was still serving in the *Inflexible* when she sank, after striking a mine, in the Dardanelles on March 18th, 1915. For his services on that occasion he received the D.S.O. He subsequently served for two years at the Royal Naval Hospital, Chatham, and at the end of 1917 left to join H.M.S. *Challenger*, on which he was serving till his fatal illness.

ARMY.

Died on Service.

MAJOR R. S. ARMOUR, R.A.M.C.

Major R. S. Armour, R.A.M.C., was reported as having died on service, in the casualty list published on December 16th. He took a temporary commission as lieutenant in the R.A.M.C. on June 4th, 1915, was promoted to captain after a year's service, and recently to major.

MAJOR A. V. FORD, R.A.M.C.(T.F.).

Major Arthur Vernon Ford, R.A.M.C.(T.F.), died after a long illness at Seaview, Isle of Wight, on December 13th. He was educated at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.I. over forty years ago, in 1876. He was consulting surgeon to the Portsmouth Eye and Ear Infirmary, and held a commission as major, dated July 21st, 1908, in the 5th Southern (Portsmouth) General Hospital.

CAPTAIN L. DAS, I.M.S.

Captain Lashman Das, I.M.S., died of influenza at Karachi on October 27th. He took a temporary commission as lieutenant in the I.M.S. on July 27th, 1917, and was promoted to captain on completion of a year's service.

CAPTAIN J. M. GAGE, R.A.M.C.

Captain John Munro Gage, R.A.M.C., was reported as having died on service, in the casualty list published on December 16th. He was educated in Dublin, and took the diplomas of L.R.C.P. and S.I. in 1910. After acting as house-surgeon of Mercer's Hospital, Dublin, and of Noble's Hospital, Douglas, he went in for lunacy, and was senior assistant medical officer of the Royal Ealswood Institution, Redhill, Surrey, when he took a temporary commission as lieutenant in the R.A.M.C. on January 1st, 1916, and was promoted to captain after a year's service.

CAPTAIN F. M. HEWSON, R.A.M.C.

Captain Falkiner Melton Hewson, R.A.M.C., died of influenza at Mhow, Rajputana, on October 22nd, aged 35. He was educated in the Medical School of the R.C.S.I., Dublin, took the diplomas of L.R.C.P. and S.I. in 1907, and entered the R.A.M.C. as lieutenant on February 4th, 1908, becoming captain on February 4th, 1911.

ASSISTANT SURGEON H. A. FOX, D.C.M.

Assistant Surgeon Henry Alexander Fox, D.C.M., Indian Medical Department, died of pneumonia at the Station Hospital, Firuzpur, Punjab, on October 19th, aged 34. He was born on November 18th, 1883, the son of Captain and Senior Assistant Surgeon G. F. Fox, I.M.D. (retired), and joined the I.M.D. on February 25th, 1904. He served on the north-west frontier of India in the Mohmand campaign of 1908, receiving the frontier medal with a clasp, and had gained the Distinguished Conduct Medal in the present war.

Wounded.

Captain R. H. Jones, R.A.M.C. (temporary).

Repatriated.

Captain R. R. Duncan, R.A.M.C. (temporary).
Lieutenant E. H. P. Martland, R.A.M.C. (temporary).

DEATHS AMONG SONS OF MEDICAL MEN.

Beach, Lionel F. H., D.S.O., Captain 2/4th Queen's Royal West Surrey Regiment, only child of Dr. Fletcher Beach of Coulsdon, Surrey, whose death, aged 26, at Coulsdon, from pneumonia after influenza, on November 28th, was announced in the BRITISH MEDICAL JOURNAL of December 14th, was educated at Haileybury and at Worcester College, Oxford, where he rowed for his college. He took a commission in October, 1914, went to Gallipoli in July, 1915, and was invalided for dysentery, but after his recovery rejoined in Palestine, where he was severely wounded at Gaza in March, 1917. He rejoined in September, 1917, was again severely wounded, was mentioned in dispatches, and received the D.S.O. He returned to England in March, 1918, and had only been discharged from hospital on November 8th.

Campbell, Frederick William, Second Lieutenant I.A.R.O., attached to the 105th Labour Corps, son of the late Dr. G. H. Campbell of the Burma Commission, died of pneumonia at Tank, N.W. Provinces, on October 11th. He was formerly employed as an accountant at Rangoon, had served as a gunner from the commencement of the war, and had recently been nominated by the Burma Government for special training for staff duties. His two brothers, who are members of the medical profession, have served in the army.

Head, Raymond Evelyn, M.C. and bar, Captain King's Liverpool Regiment, died at the Military Hospital, Tooting, on November 24th of wounds received on August 24th. He was the youngest son of the late Dr. Robert Turner Head of Balsham, and was educated at Lowestoft College. He joined the army as a trooper in the beginning of the war, got a commission in the Dragoon Guards in November, 1914, and subsequently exchanged into the Liverpools. He was wounded at Vimy Ridge in June, 1916, and received the Military Cross; was again wounded in August, 1916, at Delville Wood, in the battle of the Somme; returned to France in May, 1918, was wounded for the third time at Evillers, and received a bar to his Cross.

[We shall be indebted to relatives of those who were killed in action or died in the war for information which will enable us to make these notes as complete and accurate as possible.]

HONOURS.

SPECIAL Supplements to the *London Gazette*, dated December 11th, contain a list of awards for valuable and meritorious services rendered in connexion with the war in India and within the Union of South Africa in connexion with the campaigns in German South-West Africa and German East Africa. The lists include the names of the following medical officers, who receive the awards indicated:

K.C.I.E.—Lieut.-General Thomas Joseph O'Donnell, C.B., D.S.O., R.A.M.C., Director of Medical Services, India.

C.I.E.—Colonels Herbert James Barratt, R.A.M.C. (ret.), and Samuel Cowell Philson, R.A.M.C. (ret.), Assistant Directors of Medical Services of the Meerut Division and the Karachi Brigade respectively.

C.B.E.—Colonels William Molesworth, C.I.E., V.H.S., I.M.S., and Alfred William Sheen, A.M.S.(T.F.).

O.B.E.—Lieut.-Colonel (honorary Colonel) Henry Temple Mursell, S.A.M.C., Lieut.-Colonels Gervase Meyer de Kock, S.A.M.C., and John Robertson McGregor, S.A.M.C., Major (acting Lieut.-Colonel) Paul Johannes Van Coller, S.A.M.C., Major Albert Elijah Walter, I.M.S.

The Royal Red Cross has been conferred upon two matrons and two sisters of the S.A.M.C. for valuable services rendered within the Union of South Africa in connexion with the campaigns in German South-West Africa and German East Africa.

THE membership of the American Red Cross on June 1st, 1917, was 486,194. On July 31st, 1918, it was 20,648,193. Within eighteen months the public contributed £65,000, besides large quantities of materials and supplies of all kinds.

A COMMITTEE has been formed at Buenos Aires to provide relief for French medical practitioners or their families who have specially suffered from the war. Within two or three days of its formation subscriptions amounting to more than £2,000 were received from all grades of the medical profession.

Scotland.

ASSOCIATE PROFESSORS IN EDINBURGH.

AN Ordinance proposing to institute the offices of Reader and Senior Lecturer, together with the report of the Business Committee thereon, was considered by a meeting of the General Council of the University held on December 12th, under the presidency of the Vice-Chancellor, Sir Alfred Ewing.

The Ordinance set out that it was expedient that provision should be made for increasing the teaching power of the university, and that the University Court should have power to appoint Readers, after consultation with the appropriate faculty and with the Senate, either for a term of years or permanently; it confirmed the creation of senior lectureships already made. The Readers were to be persons whose university work should be their main occupation. It was further provided that a Reader should be eligible for admission to the faculty. Power was also given to the University Court to create senior lectureships and appoint lecturers thereto, and provided that such lecturers should be eligible for admission to the faculty.

The report of the Business Committee welcomed the Ordinance, whose purpose was to increase the teaching power of the university. Every one, it said, was agreed that the number of professorships was too small for the present-day demands on the university—demands which would in all probability greatly increase in the immediate future. The Business Committee, while thus agreeing with the main purpose of the Ordinance, disapproved of the introduction of the term Reader, which, it alleged, was practically unknown outside the Inns of Court and the universities of Oxford and Cambridge. The aim of the Ordinance was an expansion of teaching power of the higher grade, and the Committee was strongly of opinion that the title Associate Professor was that which alone would adequately describe the proposed new class of university teachers. The Committee also advised that provision should be made for the admission of associate professors to the Senatus, as well as to the faculty. The Committee disapproved of the power the Ordinance proposed to give to confer a degree on any officer of the university, and recommended that such power should be exercised only with respect to members of the teaching staff; and it deprecated the taking of power to confer, even on members of the teaching staff, a degree except in cases in which the recipient already held a corresponding degree obtained by him at another university.

The use of the title Reader was defended by Professor Sir Richard Lodge, and the Vice-Chancellor said that it had already been employed by the University of St. Andrews. Professor Lodge's motion, which retained the title of Reader, found no seconder, and the term Associate Professor was agreed to. The proposal of the Ordinance that the new teachers should be members of the faculty was agreed to and on the point concerning the giving of degrees it was decided by the casting vote of the Vice-Chancellor that the Ordinance should stand.

AFTER-WAR WORK OF THE UNIVERSITIES.

At a medical graduation ceremony at Edinburgh on December 18th the Principal said that the university was already feeling the effects of peace, which had brought back to them many old students, so that at the present moment the number of first-year medical students was larger than even in the years before the war. It was a great satisfaction not only to see the class-rooms again filled, but all the various activities of the university resuming their healthy life, including the Students' Representative Council and the Union. The statistics of the share the university had played in the war were still incomplete, but the names of 5,000 members who had taken their part in it were already known, as well as those of between six and seven hundred members of the university who had given their lives, a number he feared that was by no means complete. Members of the university had to their credit at least two awards of the Victoria Cross, at least 96 awards of the D.S.O., and at least 328 Military Crosses, 17 with a bar; it was significant of the share the university had taken in cementing the alliance that there should be eighteen awards of the Croix de Guerre. The professors testified that the returned students were standing up magnificently to their work, but they were only the forerunners of a vastly greater number. The return of so many young men seeking university training raised a great national problem. It was unreasonable to expect such men to pass the same tests of admission to the university as were properly expected in peace time. In common with other universities of Scotland, and he believed with all the universities of the empire, Edinburgh was taking steps to make it easy for students to enter the university with a view to graduation, and the necessary discretionary powers were being sought. It was in the interests of the nation as a whole, as well as of the individual students, not only that resettlement in civil life should be made easy, but that they should be given an opportunity to obtain as quickly as possible the necessary training to make them nationally efficient. The task of providing university training for the enormous number of students coming back expecting it would not be easy for any university. At a meeting of the Court on December 15th the Principal stated that he had attended the deputation of the British universities which presented a statement of immediate needs to the Chancellor of the Exchequer on November 23rd.

England and Wales.

KING EDWARD'S FUND FOR LONDON.

AT a meeting of the governors and General Council of King Edward's Fund for London, for the purpose of awarding grants to hospitals, convalescent homes, and consumption sanatoriums for 1918, the report of the Distribution Committee was received. The sum available was £190,000, as against £181,000 in 1917, £162,500 in 1916, and £149,500 in 1913, the last year before the war. The sum distributed in the form of grants to maintenance was £160,250, an increase of £8,075 over the corresponding total in 1917, and of £16,825 over that of 1916. The capital grants amounted to £29,750, an increase of £925 as compared with 1917, and of £10,675 as compared with 1916.

Of this year's total, only £4,150 is in respect of schemes sanctioned during the war on the ground of exceptional urgency, while £10,100 is in reduction of capital liabilities incurred before the war. The remaining £15,500 has been earmarked for schemes of improvement, the execution of which had been deferred until after the war. During the course of the war a large number of hospitals have prepared schemes of improvement or extension to be carried out after the return of peace, and have submitted their proposals either in principle or in detail to the Fund. During the first three years of the war the Distribution Committee, with the approval of the General Council, discouraged the issue of all public appeals in aid of schemes which were not of such urgency as to require their being put in hand at once. Their reasons for this were:

(*a*) That it was undesirable that appeals for future objects should compete with appeals for purposes which were urgently necessary during the period of national stress;

(*b*) That it was undesirable to accumulate funds earmarked for future building when it was impossible to foresee the circumstances which would obtain after the war.

In 1917 some capital grants were made in aid of the most urgent of the deferred schemes, and in April, 1918, the Distribution Committee announced its readiness to consider proposals for the immediate issue of appeals for post-war schemes, on certain conditions, one of which was:

That wherever the carrying out of the scheme would involve increased maintenance expenditure it should be clearly stated in the appeal that contributions received in response thereto should be available either for building, or for endowment in the event of circumstances rendering it inadvisable to expend the whole of the contributions on building.

If all the schemes of the various hospitals were to be completed the number of beds to be maintained by the voluntary hospitals of London would be increased, as compared with those maintained in 1913, by not fewer than 1,750. The Committee does not at present express any opinion as to whether this number of additional beds is required, but in order to be in a position to consider the

whole question from the point of view of the total needs of the population, the geographical distribution of the proposed increases, and the financial problem of future maintenance, the Committee has decided to invite all the hospitals concerned to furnish it with the latest particulars of their building schemes, whether previously submitted in detail to the Fund or not.

In 1909 the Fund expressed a desire to see a representative movement started in Woolwich for the provision of an efficient general hospital of fair size. The proposed War Memorial Hospital in Woolwich is the outcome of such a movement, and the Fund has made a grant of £5,000 this year as a first contribution towards the erection of a new hospital, in accordance with a scheme to be submitted to the Fund in due course. In taking this step the Fund has departed from its practice of not assisting in the building of new hospitals or entertaining applications from hospitals which have not been in existence in a properly constituted form for three years.

Some time ago, in pursuance of its policy of promoting amalgamation of special hospitals, a sum of £10,500 was set aside to promote the amalgamation of throat hospitals. The Hospital for Diseases of the Throat, Golden Square, and the London Throat Hospital, have already been amalgamated, and now the Royal Ear Hospital, which has been closed during the war, will be reopened as a special department of University College Hospital; a grant of £1,000 has been made to facilitate this process.

Several grants have also been made in aid of schemes of extension, including £1,000 for a new out-patient department at Queen Charlotte's Lying-in Hospital, and £1,500 for a new nurses' home and out-patient department at St. Mary's Hospital for Women and Children, Plaistow. The grants to consumption sanatoriums for the year amounted to £7,825, and to convalescent homes £2,175.

The Treasurer, Lord Revelstoke, stated that the total receipts for the year were estimated to amount to £178,271. To this was to be added a contribution from the League of Mercy. Sir William Collins, in presenting the annual statement of the League, said that in the last complete pre-war year and in 1914 and 1915 the contribution from the League was £14,000; in 1916 and 1917 it was £15,000, and this year it was £16,000. The League, he said, had been in existence for twenty years, and during that period it had contributed £276,000 to the Fund, and to the extra-metropolitan hospitals in the area of its collection outside the area of the King's Fund £29,280, making a total of £305,230.

A letter was read from the King, in which he mentioned the fact that the Fund was established by his late Majesty in 1897, so that this was its coming of age year. The King referred to the loss sustained by the Convalescent Homes Committee by the death of its chairman, Dr. Freshfield, and expressed his regret that Sir William Church was about to retire from the Distribution Committee. He expressed his earnest hope that the Prince of Wales would be able shortly to take up the presidency of the Fund.

The Marquess of Cambridge, who was in the chair, after reading the King's letter, said that the needs of the hospitals in the immediate future were not likely to diminish; the beds at present occupied by wounded and partly paid for by the military authorities would be shortly restored to civilian use and would have to be wholly maintained out of normal sources of income. Questions of finance, both for building and maintenance, required careful consideration. Each hospital that contemplated an extension might make a perfectly satisfactory estimate of its own future resources; but the combined total for all the hospitals might be so great as to endanger the success of each separate scheme. There was also the question of geographical distribution, but to rearrange the present hospital accommodation would be a gigantic task. The extension of existing hospitals, however, could be so distributed as to reduce the worst inequalities.

THE American Government has instituted a campaign against tuberculosis in cattle. It is estimated that about 15 per cent. of pure bred cattle in the States are affected.

THE New York Polyclinic Hospital has been transferred to Columbia University to be used for the public service and for advanced teaching and research in medicine and surgery. The hospital, which was built in 1912, has 300 beds.

Correspondence.

MEDICAL ADVISERS OF INDIAN GOVERNMENTS.

SIR,—As the Chairman of the Naval and Military Committee of the British Medical Association, I was responsible both for the inception and the organization of the recent deputation which waited on the Secretary of State for India. I therefore feel it incumbent on me to answer "A. G. C.'s" letter from Madras which appeared in your issue of December 14th.

The importance of "A. G. C.'s" communication lies far more in what it implies than in what it says. It accuses Surgeon-General Benson of a misstatement of facts, though it is quite obvious that he spoke in good faith and from his own personal experience, but in ignorance of the present routine in Madras.

The casual reader would be led to infer that the action of the members of the Madras Government in according interviews to the Surgeon-General removes the grievance of which the British Medical Association complains. It is essential that no such inference should be allowed to spring up from any half-statement of the truth; I therefore desire to state the case fully, being open to correction if I am in error in any detail.

The contention of the Association, as you have clearly pointed out in your editorial comment on this letter, is that the Director-General and the Surgeons-General should in *all* communications with the Government to which each is responsible, have the *right* of direct access to that Government. That a single Governor of a single province should, as an act of courtesy, receive the head of the medical department when the latter desires an interview, or that the member who holds the medical portfolio should do the same, in no way fulfils the demands of the officers of the I.M.S., or of the medical profession. The next Governor of the same province need not necessarily do the same, nor, as far as I am aware, is it the custom for the Governors of other provinces to follow Lord Pentland's lead in this matter.

There is a far more important point involved: "A. G. C." does not say—and I challenge him to say it if he can—that it is now the custom of the Madras or of any other Government in India for the files dealing with medical matters to go direct to Government from the Surgeon-General, as they would be bound to do, if that officer were a Secretary to Government. My information is that the evil and ancient custom whereby these technical files are sent to Government through the Secretariat still holds. This means that after the head of the medical department has given his views on any subject, however technical it may be, it is open to non-medical officials in the Secretariat to criticize or even to traverse those views before sending them on to Government. Such a state of affairs is keenly resented by the officers of the I.M.S., and is considered by the British Medical Association to be inconsistent with the dignity of the medical profession and subversive of the interests of the State. The concession on which "A. G. C." lays so much stress is of comparatively little value in view of the very much larger question at issue. This in no way implies that the British Medical Association will fail to appreciate to the full a kindly, courteous, and statesmanlike act of Lord Pentland's. As an individual Governor he has perhaps gone as far as he could, but the very isolated nature of this concession serves merely to mark the contrast between what actually holds and what the medical profession considers should hold.

"A. G. C." writes in his letter as if he spoke authoritatively for the Madras Government, and I do not dispute his title to do so. In such circumstances, the inference which many of your readers will draw from his communication will be that that Government acts with liberality and in a progressive spirit in its dealings with its medical officers. I therefore desire to remind both him and them that the Madras Government has deliberately thrown open the doors of its hospitals to the rich as well as to the poor; that it has fixed a scale of fees for the former to pay both for treatment and for operations, and that it sweeps these fees, the product of the work of its medical officers, into its own exchequer. There is at least one Government in the East (that of Burma), and I believe there are others, which adopt a much fairer policy in dealing with their

medical officers. This action of the Madras Government is regarded with the deepest disfavour both by its medical officers and by the British Medical Association. When I had the honour of presenting the report of the Naval and Military Committee to the Representative Meeting this was one of the matters I brought before that body, and there could be no mistake as to the attitude that was taken up on the question. If I lay stress on it now it is because I feel that as "A. G. C." has championed the cause of the Madras Government in your columns and in doing so has reflected on the accuracy of a statement made by a member of the Association's deputation, it is but just and appropriate that your readers should understand in turn that the case he has presented, though doubtless the truth, has not been the whole truth. In saying this I am not suggesting for a moment that he has had any more intention of misleading his audience than Surgeon-General Benson had.

The present moment is big with fate for the relations between the Government of India and its Medical Service. The sands are running out and the patience of the medical profession is nearly exhausted. The happiest augury for the future lies in the attitude of the Secretary of State for India as revealed in his reception of the British Medical Association's deputation. That attitude would have prevented me from writing as I have done to-day had the author of the letter you print been any one less authoritative than "A. G. C.," or had he phrased his communication with more generosity to Surgeon-General Benson.—I am, etc.,

R. H. ELLIOT, Lieut.-Colonel, I.M.S.(ret.),
Chairman, Naval and Military Committee,
British Medical Association.

London, W., Dec. 20th.

THE TOILET OF THE MOUTH IN INFLUENZA.

SIR,—During the present epidemic of influenza it has appeared to me that an undue proportion of pneumonias arising as a complication commence in persons with septic oral conditions or nasal obstructions leading to mouth breathing. It seems probable that the influenza bacillus alone is responsible for the primary tracheal and bronchial irritation, and that this enables the pneumococci and streptococci to obtain a lodgement.

My object in writing is to suggest that insufficient stress has been laid on the importance of attending to the toilet of the mouth and nose from the very outset of the disease. Whether this is done by means of mouth-washes, sprays, or by medicated vapours, is immaterial. The necessity of diminishing the numbers and reducing the virulence of these secondary septic organisms, which are almost certainly derived from the mouth, is obvious.—I am, etc.,

Staveley, Chesterfield, Dec. 3rd. ARTHUR COURT.

MEDICAL DEMOBILIZATION.

SIR,—I see that the Government proposes to call up medical students as soon as they are qualified in order to relieve doctors who have long been on active service. Every one will sympathize with the object of this measure, but at the same time it will have to be carried out with great discretion if the work of the hospitals is not to be crippled for lack of house-physicians and house-surgeons. Already the supply of these is dangerously low, even with the help of women senior students and Oriental gentlemen. A real deficiency of these makes hospital work a cruel sham instead of a beneficent reality, and affects the chances of life or disability in vast numbers of the working classes.

To illustrate the blindness of the authorities to the value of hospital residents, I will quote the instance of my own house-physician at the Royal Infirmary, Hull, a very competent and experienced senior student doing invaluable medical work. Two months ago he was suddenly removed and converted into a trooper. He is now driving a motor lorry.

I hope this plea for the minimum requirements of defenceless hospitals in the apportioning of young doctors or senior students may catch the eye of those in authority, and that they may resort in some measure to other and less simple methods of releasing doctors from the army, where the amount of work must now be very much reduced.—I am, etc.,

FRANK C. EVE,
Honorary Physician, Royal Infirmary, V.A.D., and Children's Hospitals, Hull.

December 21st.

THE SCOTTISH UNIVERSITIES CONSTITUENCY.

SIR,—In your last issue you published a letter from the secretaries of the Medical Parliamentary Committee in which they state that supporters of Professor W. R. Smith, M.D., D.Sc., were claiming him as the candidate adopted by the Medical Committee for this constituency. The secretaries further refer to a list of candidates whose candidatures the Committee approve, but they do not state what is the case—namely, that Professor Smith is of the candidates whose names appear on this list.

To show the absurdity of the secretaries' position I may say that I have before me, as I write, a letter addressed by them to Professor Smith of date November 30th, in which they offer him the active support of speakers in support of his candidature.

I am not aware that any of Professor Smith's supporters thought it necessary to give special emphasis to the fact that his candidature was endorsed by the Medical Committee. If, however, they have done so, they were surely justified in assuming that a candidate was very specially approved by a committee which had offered to lend him vocal support in his candidature.

The joint secretaries will have some little difficulty in extricating themselves from their blunder, and it is most unfortunate for Professor Smith that most of the voting papers will have been returned before this reply could be published in your JOURNAL.—I am, etc.,

ROBERT W. COCKBURN, LL.B., W.S.,
Election agent for Professor W. R. Smith, M.D., D.Sc., LL.D.

Edinburgh, Dec. 16th.

*** We have referred this letter to the Honorary Secretaries of the Medical Parliamentary Committee, who reply as follows:

Before the nominations for the recent election took place the Medical Parliamentary Committee drew up a list of medical men considered suitable for Parliament, not for particular seats. Owing to the imminence of the election, it was not thought likely that any seats could be found immediately for these candidates. It was hoped that their names would be available for future by-elections. It was known that Professor Smith proposed to stand for the Scottish Universities constituency. But it seems that Mr. Cockburn was not informed that the appearance of Professor Smith's name in the list was due to a suggestion made by himself that should he not be successful in his present venture he would be eligible at a later date. The letter offering speakers was sent to all medical candidates at the recent election in pursuance of the policy of inculcating in electors present at the meetings the importance of health questions and the need for an increase in the number of medical men in Parliament. The offer was made in a purely non-party spirit, and without any intention of adopting or endorsing a particular candidate for a particular seat.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

M.D.—*Branch I (Medicine)*: L. A. Celestin, E. C. Spaar. *Branch IV (Midwifery and Diseases of Women)*: Grace Stapleton.
M.S.—*Branch I (Surgery)*: S. Ritson.

UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—N. H. Davison, B. Walley, Ethel D. Willis. *Forensic Medicine*: May Ashburner, Mary S. Jones, J. N. Laing, Effine Ratner.

THIRD M.B., CH.B.—*General Pathology and Morbid Anatomy*: S. Adler, May Blakiston, J. W. Crawshaw, K. V. Deakin, F. R. Ferguson, Evelyn A. Garnett, E. M. Greaves, G. E. Hayward, Sylvia K. Hickson, J. B. Higgins, F. S. Horrocks, Irma M. C. Jehansart, F. C. Jones, *W. E. Mason, Doris B. Norman, E. R. Ormerod, Emily M. Peach, H. Rosenthal, *G. Sheehan, Constance Snowdon, Annie E. Somerford, *G. L. Taylor, H. W. Taylor, H. Tomlinson, Mary I. Turner, F. A. van Coller, *R. Williamson,

J. B. Wright. *Pharmacology and Therapeutics and Hygiene:* M y Blakiston, Kath een M F llerton, E. M. Greaves, Violet M. Jewson, Jessie Kilroe, Gertrude B. Leigh, Annie Rothwell, Fl rence G. Sherry, J. B. Wright *Pharmacology, and Therapeutics:* Martha F. Barritt Florence M L. Graham, Bertha Renshaw. *Hygiene:* Dorothy M. L. Dyson, A. Maude, J. S. Robinson.

*Awarded distinction.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following have been admitted Fellows: J. Ellison, R. J. English, J. B. Hogarth, R. L. Hutton, M. A. Nickle, I. A. Razzak, J. N. MacB. Ross, A. G. Stewart, D. L. Tate, W. R. Tutt, W. Tyson.

Medical News.

DR. J. B. KENNY, of Roebuck, Clonskeagh, has been appointed to the Commission of the Peace for county Dublin.

DR. R. C. BROWN, F.R.C.P., F.R.C.S., of Preston, late President of the Lancashire and Cheshire Branch of the British Medical Association, is retiring on December 31st from his appointment as certifying factory surgeon, which he has held for fifty-five years.

IN view of the many applications that are likely to be received from partially disabled men for licences to drive motor vehicles, the Home Secretary has reappointed the committee which considered this subject in 1916. The committee consists of eight members, including Colonel H. J. Waring, F.R.C.S., surgeon to St. Bartholomew's Hospital. The secretary is Mr. H. A. Tripp, to whom communications should be addressed at the Metropolitan Police Office, New Scotland Yard, S.W.1.

THE Home Secretary gives notice that he has directed that George Frederick Handel Bartlett, chemist and druggist, of 38, Battersea Park Road; 236, Battersea Park Road; and 143, High Street, Battersea, who on October 17th last was convicted of offences under Defence of the Realm Regulation 40 B, shall cease to be an authorized person for the purposes of that regulation, which regulates dealings in cocaine and opium. The effect of this order is that Bartlett may no longer purchase or be in possession of opium or cocaine, and any person supplying him with these drugs will be committing an offence against the regulation.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediaecra, Westrand, London;* telephone, 2634, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

QUERIES AND ANSWERS.

INCOME TAX.

IN 1917-18 "Inco" left his practice in the care of colleagues, served six months in the army, and then commenced special civil work in a Government office. What should be the basis of his liability for income tax?

*** His military service entitles him to have the assessment on his civil practice adjusted from the average to the actual amount of profit of the year ending April 5th, 1918 (see 13 (1) Finance Act, 1914, Session 2). This amount is not necessarily to be determined on the basis of cash receipts, as these would be greater than the fees earned for him in his absence; the revenue authorities contend for an assessment based on bookings where the practice is being commenced, on the ground that the cash basis can only apply fairly when the old fees received are substantially the same in amount as the unpaid fees carried forward to the next year, and our correspondent can fairly claim that the principle should be followed in the converse case. In view of the absence of military service in 1918–19, the above adjustment can be claimed only if the total actual income is 20 per cent. less than the total income as assessed or charged (see 29 Finance Act, 1916). The answers to our correspondent's specific questions are: (1) *Total* income cannot be averaged, and Government pay is assessable on the amount accruing in the financial year; life assurance premiums cannot be treated as deductions in calculating total income for the purpose of any of the rates of tax. (2) As suggested above, and if the substitution of the correct income of the year for the "average" brings the total income down below £1,000, the reduced rates apply to the whole income. (3) An intimation should be sent of a claim under S. 13 (1) to the local surveyor of taxes; such claims are required to be made within twelve months—that is, for 1917–18 by April 5th, 1919. (4) The decided cases draw a distinction between expenses incurred *in* carrying out the duties and those antecedent expenses incurred in reaching the place where the duties are performed. Unless the department concerned is prepared to make some allowance for the special circumstances the claim could not be upheld. (5) The rate is 3s, unless a right of adjustment arises as in No. 2 above.

LETTERS, NOTES, ETC.

TOBACCO AND NEURASTHENIA.

M.B. writes: Since the commencement of the war tobacco has obtained far too great a hold upon the community generally, but I doubt whether the medical profession has fully appreciated the craving which neurasthenics have for tobacco, and especially in the form of cigarettes—a most prejudicial vicious circle becomes established, and, as one patient so truly confided to me, the inhalation of cigarettes is one of the causes of this disability, and neurotic patients who are candid with themselves and their medical advisers recognize this fact; but unfortunately the loss of self-control prevents the breaking of a habit. I would appeal to the medical profession to assist their neurasthenic patients in overcoming this pernicious state of affairs, which retards improvement, and, I am convinced, prevents a permanent cure in a large percentage of cases.

CARBOLIZED OIL INUNCTION IN SCARLET FEVER.

DR. F. P. ATKINSON (Bexhill-on-Sea) writes: Some thirty years ago I treated a case of scarlatina by smearing the body with carbolized oil. I told the nurse that when there was the slightest appearance of peeling I intended to have the whole body smeared with carbolized oil, so as to prevent the skin coming off in such fine particles and also for the purpose of disinfection. At the time, however, I said nothing as to what the strength of the carbolized oil was to be. Consequently, as soon as there was the faintest sign of peeling, the nurse got the carbolized oil (1 in 40) from the chemist and smeared the body thoroughly with it. The skin soon began to come off in big flakes, as big as the palm of one's hand, while the patient seemed to be going on well. But one morning I found him complaining of headache and a feeling of sickness; at the same time the urine had a distinctly smoky appearance. Judging these to be commencing symptoms of carbolic acid poisoning I ascertained the strength of the oil used. I then ordered the use of plain olive oil and the patient made a good and rapid recovery. Moreover, he was very soon able to mix with the other members of the family, as the skin became perfectly smooth and clear. But I do not think I repeated the experiment, especially as Dr. Milne's treatment by eucalyptus oil seemed quite as efficacious and less dangerous.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.